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PUBLIC MEETING ON WASTE DISPOSAL IN THE NEW YORK BIGHT. THURSDAY, OCTOBER 16, 1958

Public Health Service
New York, New York

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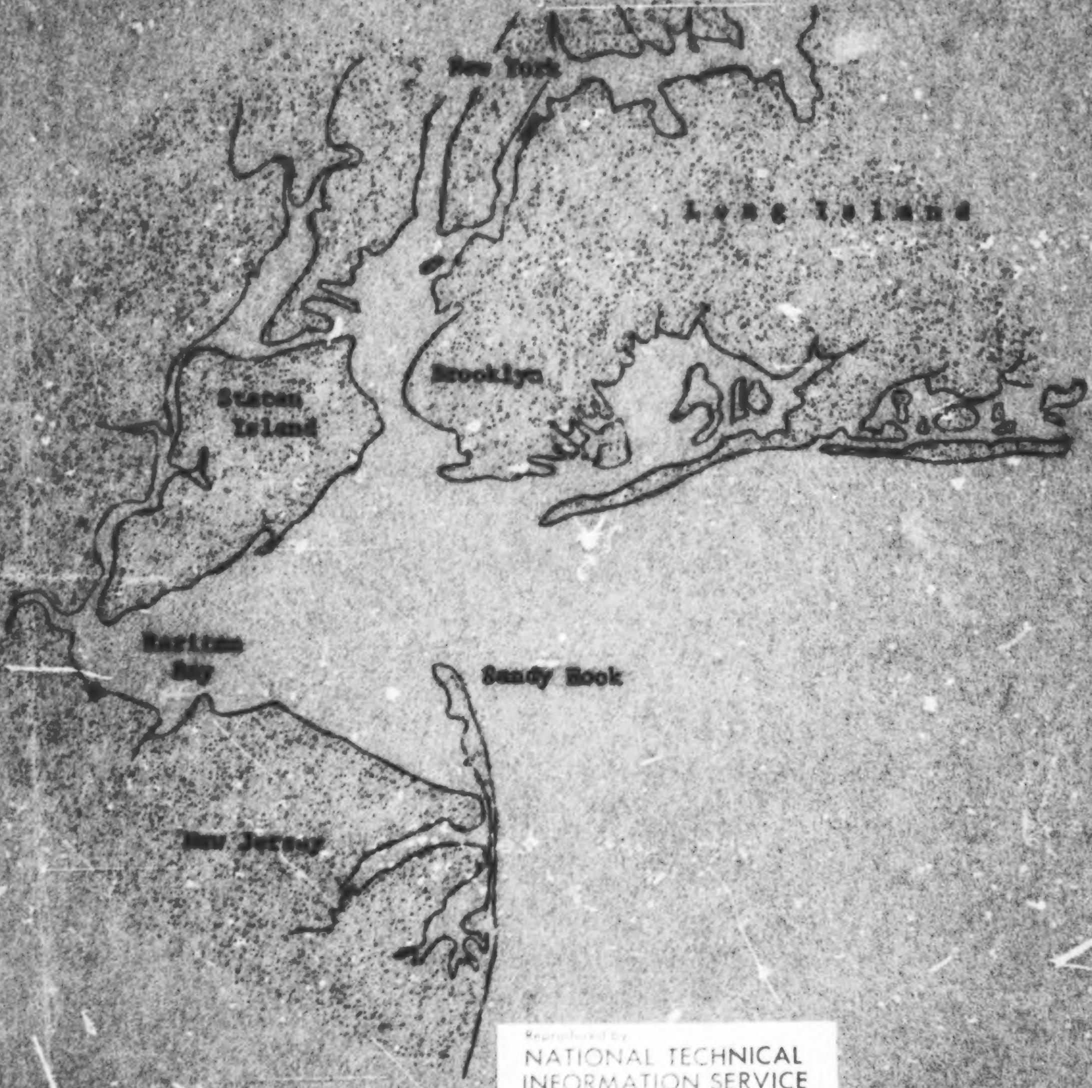
ON
WASTE DISPOSAL IN THE NEW YORK BIGHT



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PUBLIC MEETING

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Thursday, October 16, 1958

345 East 46th Street

New York, N.Y.

UNITED STATES PUBLIC HEALTH SERVICE

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I

PUBLIC MEETING ON WASTE DISPOSAL IN THE NEW YORK BIGHT

NEW YORK CITY
October 16, 1958

CHAIRMAN:
Sylvan C. Martin
Regional Engineer, Region II
U. S. Public Health Service
New York 4, New York

PANEL:
Mark Abelson
Staff Assistant
Technical Review Staff
Office of the Secretary
Department of the Interior
59 Temple Place
Boston, Massachusetts

A. F. Dappert
Executive Secretary
New York State Water Pollution
Control Board
84 Holland Avenue
Albany, New York

Robert Shaw
Director
Bureau of Environmental Sanitation
New Jersey State Health Department
Trenton, New Jersey

PANEL CHAIRMAN:
Murray Stein
Chief
Interstate Enforcement Section
Water Pollution Control Program
U. S. Public Health Service
Washington 25, D. C.

A list of those in attendance is attached as "Appendix A"

An Index is attached as "Appendix B"

II.

MR. MARTIN: It is past the appointed hour and we have to start. Will you all be seated. Before starting, I want to thank all of you for coming here this afternoon. You evidence your interest in this problem which we will have under discussion this afternoon.

I would also like to announce that the hearing will continue after we adjourn this afternoon; it will continue this evening from 8 to 10 P.M. for anybody who wishes to contribute any additional information that they might have with regard to this particular problem.

My name is Sylvan C. Martin. I am Regional Engineer of the U. S. Public Health Service, Regions 1 and 2, with offices here in New York City. Our office serves the ten northeastern States. I should like to open this meeting by stating why it is being held and the purpose of it.

This can best be done by reading to you a letter which the Commissioner of Health of the State of New York, Dr. Herman E. Hilleboe, sent to the Surgeon General of the Public Health Service. The letter reads as follows:

"This Department and the Governor's office continue to receive complaints alleging serious pollution of Atlantic Ocean water by industrial waste dumped at sea by the National Lead Company of Sayreville, New Jersey.

"The most recent complaint has come from the Sportsmen's Council of the New York Marine District. This Council represents 125 different fishing and boatmen's clubs and strongly contends that this dumping operation is seriously damaging to the fishing and boating industry of New York State.

"As you probably know, this dumping operation takes place in Atlantic Ocean water beyond the boundaries of the States of New York and New Jersey, but in waters subject to Federal jurisdiction.

"The dumping of chemical wastes, consisting principally of ferrous sulfate and sulfuric acid in an area 13 miles from Scotland Lightship and ten miles off the coast of New Jersey, is covered by a permit granted to the National Lead Company by the Captain of the Port of New York.

"In issuing this permit, the Captain of the Port of New York was guided by the advice of the U. S. Fish and Wildlife Service. Studies of this matter were made in 1949 by the U. S. Fish and Wildlife Service and the Woods Hole Oceanographic

Institution, sponsored by the National Research Council of the National Academy of Science with funds supplied by the National Lead Company.

"These studies are reported upon in the National Research Council's Publication No. 201 published in 1951 and entitled "Study of the Disposal of Chemical Wastes at Sea." These studies resulted in the conclusion that under the conditions prevailing during the period of the investigation the procedure employed by the National Lead Company in disposing of wastes from its titanium plant is entirely proper and the operation should not be discouraged unless some new facts justify a contrary opinion.

"The recent complaints emphasize the need for reexamination of the matter in the light of nearly ten years of dumping operations, the increases in the volume of wastes which may have occurred and the damaging conditions which complainants contend they have observed in the years since the dumping operation was established.

"We believe that the matter should be subjected to further investigation and, since the operation is a Federally permitted one, it should be investigated by Federal authorities. As a matter of fact, the Woods Hole Oceanographic Institution, in response to previous communications from us, has voiced the opinion that it might be in the public interest to have some annual survey made to determine whether, in fact, unanticipated and undesirable effects are resulting from these operations.

"I have been directed by Governor Harriman to take this matter up with you and request that another study of the operation and its effects be made as soon as possible. I appreciate that unless the National Lead Company can be persuaded to supply the funds which would be needed for a study as comprehensive as the one which was made in 1949, it would take some time for the Federal agencies which would be involved to develop plans and obtain funds for a Federally financed investigation.

"In any event, I am requesting you to explore the possibilities of a restudy of the National Lead Company's operations and to do what you can to get such a restudy underway."

End of Dr. Hilleboe's letter.

Pursuant to the receipt of this letter and in accordance with Section 4B of the Federal Water Pollution Control Act which authorizes the Surgeon General upon request of any State water pollution control agency "to conduct investigations and research and make surveys concerning any specific problem of water pollution confronting any State, interstate agency, community, municipality or industrial plant with a view of recommending a solution of such a problem..."

Representatives of the Public Health Service in Washington conferred with officials of the U. S. Fish and Wildlife Service. Subsequently the Surgeon General forwarded Dr. Hilleboe's letter to our New York office with a request: (1) that investigation be made concerning the nature, source and validity of the complaint (2) that we confer on this matter with representatives of the New York and New Jersey State agencies concerned and (3) that all other pertinent facts be obtained in order that the problem could be evaluated and a suitable report made to Dr. Hilleboe and other official agencies.

Since then we have collected all the factual information that we could find on this problem. While Dr. Hilleboe's letter refers mainly to complaints about dumping in the New York Bight of industrial wastes from the National Lead Company's plant at Sayreville, New Jersey, it is common knowledge that sludge from sewage treatment plants in New York and New Jersey has been dumped in the Bight since issuance of the first permit for this purpose in 1937. Other industries have also been issued permits for dumping of waste materials in the area under consideration. Location of these dumping areas is indicated on the maps which we have here in front and on the side of the hall.

You will notice these maps here. This is the area where the sludge is being dumped, the center one is where the National Lead wastes are being discharged and the third one is where chemical wastes from the Callery Chemical Company are being discharged.

Two studies have been made by the Woods Hole Oceanographic Institution in 1949 and 1956, and a third by the Philadelphia consulting firm, Consulting Biologists, during the summers of 1956 and 1957.

We have obtained a copy of the report of each of these studies. To insure that all other information is available for evaluation by the Public Health Service, we are holding this public meeting to receive statements from anyone having information pertinent to this problem. To assist us in obtaining factual information, we have asked these men on my left here to serve as an inquiry panel during this meeting. I should like to introduce them at this time.

On the left we have Mr. Robert Shaw, Chief, Bureau of Public Health Engineering and Assistant Director of the Division of Environmental Health with the New Jersey State Department of Health. Mr. Shaw.

Next we have Mr. Mark Abelson who is the Northeast Area Representative of the Secretary of the Interior and as such is representing the U. S. Fish and Wildlife Service.

Next we have Mr. Murray Stein representing the Water Supply and Water Pollution Control Program of the Public Health Service who will serve as Chairman of the panel.

And next to Mr. Stein, on his right, we have Mr. A. F. Dappert, Executive Secretary, Water Pollution Control Board, New York State Department of Health.

I would also like to introduce at this time two men who are not members of this panel but are here trying to help me a little bit -- Dr. William Ingram who is an aquatic biologist with our water pollution control work at the Public Health Service Sanitary Engineering Center in Cincinnati. And on my right is Mr. Lester Klashman who is my assistant in water supply and pollution control in this area.

Following this meeting, all of the information obtained today will be turned over to the Public Health Service Sanitary Engineering Center for an evaluation. This center is the sanitary engineering research and technical arm of the Public Health Service.

To assist the Center in this evaluation, we are asking this panel and a representative of the fishing industry to serve as an Advisory Technical Committee. I want to assure each of you that we in the Public Health Service have no fixed ideas on this subject and that our only interest today is to obtain all of the facts available so that this problem may be properly evaluated.

Now, a word about the procedures governing the conduct of this meeting. Mr. Ungarsohn, a stenographer here, is present and will make a stenographic record of the proceedings today which we will use in preparing a summary and a report for the use of the SEC and the Technical Advisory Committee.

I would like to ask that each one of you who speaks please start by giving his full name and the agency or industry which he represents and, if you would, if you could come up at this corner for those of you that are handy here and those of you who would be more handy over there, over at that corner, and I think there is a certain spot here if you have something to read, you will find a light that will be conducive to reading. If you get over too far, there is a little bit too deep a shadow.

If anyone has not already completed a registration card, would you please raise your hand so that we could get you one. You all have them? Be sure to indicate on the card your full name and address and the name and address of any organization you represent. Also, please indicate if you have a written statement that you wish to submit. We hope that as many as can will present written statements. If you have them prepared, fine. We will be glad to take them now. If not, we can obtain them later. You will also be given an opportunity, if you wish, of making an oral summary or statement here this afternoon. If you are not prepared to submit a written statement today, and desire to do so, we shall hold the record open of this meeting for a period of 30 days to receive such statements.

Since the sole purpose of this meeting is to receive pertinent information about this problem, there will be no discussion, challenge or cross examination of the verbal statements presented today. The only questions which we want asked are those by the inquiry panel and these will be confined to such questions as may elicit additional facts and information or will clarify the statements presented.

We sincerely hope that within three to six months after this meeting the Sanitary Engineering Center and the Technical Advisory Committee will be able to evaluate all of the data and develop conclusions and recommendations concerning the present situation.

A VOICE: Mr. Martin, is Mr. Rose in the house?

MR. ROSE: Yes.

MR. MARTIN: Before we start, are there any questions? I'd like, first of all, to call on Colonel Rogers, the District Engineer of the Corps of Engineers, for any statement that he might wish to present. Colonel Rogers?

COLONEL ROGERS: I am Colonel Rogers, District Engineer from the New York District of the New York Harbor. My purpose in appearing before you this afternoon is to review briefly the history of disposal of waste materials in the metropolitan area and to summarize certain Federal laws pertinent to that problem.

Can everyone hear me? I didn't realize, Mr. Martin, that I might appear this afternoon and be subject to inquiries from representatives of other Federal agencies, but I wish to cooperate fully with you, and I do submit my thoughts to such inquiries as there are.

MR. MARTIN: Sir, let me assure you that they will only be questions on clarification of something that they may have heard. We do not intend to go into a long examination or anything like that. We do not want anybody to feel that they are under questioning, if they don't particularly want to be. We are trying to hold this down to just a presentation of the information and the only reason I thought that maybe the panel might want to ask a couple of questions is to bring out a facet or some fact that was presented. Let me be quite clear.

COLONEL ROGERS: I will be very, very pleased to answer any questions that you may have to ask.

In June of 1888, the United States Congress passed an Act establishing the office of Supervisor of New York Harbor. I personally hold this office, in addition to being a District Engineer, which I have already mentioned.

The Act of 1888 was for the purpose of, I will quote a part of it, "preventing obstructive and injurious deposits in the tidal waters of the Harbor of New York or its adjacent or tributary waters, or those of Long Island Sound within the limits which shall be prescribed by the Supervisor."

It might be well if I read that again. The purpose of the Act was "preventing obstructive and injurious deposits in the tidal waters of the Harbor of New York or its adjacent or tributary waters or those of Long Island Sound, within the limits which shall be prescribed by the Supervisor."

Incidentally, it is the Supervisor of New York Harbor that issues these permits and not the Captain of the Port. It is this law that I enforce when I grant or deny a permit for the disposal of waste materials at sea. These waste materials include rubble, broken concrete, debris and earth from highway and building construction, dredge material from channels, from the slips in the harbor, garbage, acid, sewage, sludge from fuel wastes.

The total amount of disposal for which we grant permits during the course of a year is 15 million cubic yards. Then with everything that is disposed of at sea, we also grant permits for disposal other than at sea, that is a program beyond this 15 million.

It might be interesting for you to know that if all the materials for which we grant permits for disposal at sea since the passage of this Act were piled up on Manhattan Island, it would reach about 70 feet.

I think the problem this afternoon has primarily to do with acid wastes, and I will devote the rest of my remarks to that problem. Prior to 1948, the National Lead Company discharged its waste acid solutions from the plant at Sayreville, New Jersey into the Raritan River. The resulting pollution has become most objectionable from any points of view, including that of navigation, and the company had been cited for violation of the Act of 1888.

Prior to 1948, the Supervisor of New York Harbor had completed a careful survey of the problem with close coordination with the New York District Engineer, hauling companies, the Interstate Sanitation Commission, the Bureau of Marine Fisheries of the New York State Conservation Department, the Fish and Wildlife Service of the United States Department of the Interior, the Atlantic States Marine Fisheries, the Bureau of Food and Drugs of the Department of Health and other agencies. The Fish and Wildlife Service, which has a very keen interest, a direct interest in this matter, advised the Supervisor of New York Harbor in 1946, as Mr. Martin read from the letter, that from the standpoint of maintaining the aquatic resources of the Nation, that the agency of Fish and Wildlife offers no objection to the disposal of wastes at sea, subject to proper control.

Shortly thereafter, a plan was worked out for the disposal of waste acids at sea for a trial period, during which trial period, tests and experiments were to be conducted to ascertain the effects of this operation, particularly on aquatic life.

The area selected for this test was the one shown here, about 14 miles south and east of the Scotland Light. The actual location of the area varies from summer to winter slightly. The method of dumping was described so as to obtain the greatest possible dilution.

The first actual acid dumping took place in April 1948 and since that time there have been numerous tests, experiments, surveys, conducted to determine the effect of the operation. I refer you to some reports that have already been mentioned by Mr. Martin, one published in 1948 by the Woods Hole Oceanographic Institution entitled "The Study of the Disposal of Chemical Wastes at Sea," another published in 1951 by the National Research Council and a rather recent study by the Woods Hole Oceanographic Institution in October 1956.

These reports and others, none of these reports or others, I should say, has brought forth any evidence of undesirable effect of any sort arising from the present waste added method of disposal. Until such evidence is brought to light, the Supervisor of New York Harbor has no alternative but to continue to grant the permits.

However, our interest in the past, as I have already indicated to you and as are well documented, our interest in the future will be to cooperate wholeheartedly on this problem, and if in the future any new and authoritative evidence should be brought to light, I assure you that it will be given the fullest possible consideration by my office.

I'm sorry that I will not be able to remain throughout all of this hearing. I will be pleased to answer any questions from the panel or from the floor, if you like. I would like to request that I be furnished a free copy of the transcript.

MR. MARTIN: Of course. Does the panel have any questions?

MR. STEIN: I would like to say, Colonel, that neither you nor anyone else who may come up need not answer any question from the panel if they did not so wish.

Mr. Dappert, do you have any questions?

MR. DAPPERT: No, the Colonel's remarks were such a clear statement that I would have no questions to ask of him

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he has any statements to make.

MR. O'LEARY: I have a written statement which I would like to read.

MR. MARTIN: Certainly, sir.

MR. O'LEARY: And also a couple of slides to show.

My name is William A. O'Leary, Director of Sewage Disposal of the Department of Public Works, City of New York.

One of the important functions of the New York City Department of Public Works is the removal of materials which would pollute the waters of New York Harbor. This Department is keenly aware of its responsibilities toward the attainment of clean waters in this area and in dumping of sewage sludge at sea. Therefore, we are very much concerned that such an operation must not nullify any of our own efforts or interfere in any way with our objective of achieving clean and sanitary waters. To check this, some studies have been made to determine whether the practice of sludge dumping by New York City and neighboring communities in the assigned area at sea does in any way constitute a sanitary hazard to local waters.

Could I have the slide, please?

A very intensive cooperative study was made on six successive days, from May 2 to May 7, 1938, by the New York City Department of Public Works, the Joint Meeting, New Jersey, the Passaic Valley Sewerage Commission and the Supervisor of New York Harbor.

The results of these tests were reported on June 6, 1938 and the details may be examined in that report. A resume of the findings is appropriate here.

During the six day test period, New York City dumped seven boatloads of sludge, three barge loads came from Passaic Valley and one from the Joint Meeting at Jersey; the barge "carryall" holding about twice the volume of the New York City vessels was employed by the Jersey community.

A series of sampling stations was laid out with the designated dumping point serving as the center of four concentric semi-circles as shown on the slide, one-half, one, two and four miles away; five radii from the center point were plotted in a northeast, north, northwest, west and southwest direction, so as to cover all directions toward land areas. Wherever the radius crossed the circle, it was considered a sampling point. This gave 21 sampling stations in various directions at various distances from the point of dumping. Samples and observations were made of each of these points, and of each return to the center, giving 25 such samples each day. The week's sampling covered a complete tidal cycle and the effects of wind from all directions. No rain occurred during that period.

Observations were made for color, odor and floating materials. Samples were picked up for analysis for turbidity, suspended solids, dissolved oxygen, biochemical oxygen demand and a 24 hour, 37 degree centigrade bacteria count. One hundred and forty sets of samples were picked up for these analyses during this week.

No sludge was dumped from 7:40 P.M., May 3 to 11:45 A.M., May 5. On May 4, thirty three sets of samples were taken for analysis, and since they were between dumpings and found to be very clean, these figures serve as a base for "normal conditions" to be expected in these waters. Within this short interval between dumpings, all evidence of pollution had disappeared from the area.

At the immediate time of the discharging and within the wake of the dumping, the odor sometimes was earthy and sometimes putrescent. The water was brown and a greasy foam or slick was left on the surface. The bulk of the material was observed to settle very rapidly. Chemical and bacteriological tests reflected this immediate and heavy organic pollution.

At the surrounding stations, no odor was found, vegetable and fruit fragments had disappeared by sinking and by seagull action. Rubber goods were occasionally observed. Some oil or grease slicks spread out for a short distance; then by dilution, dispersion and coagulation, it too disappeared. Within very short distances, the waters had returned to their normal appearance.

The analyses on samples taken at intervals after dumping at the point of discharge show that the suspended solids and dissolved oxygen were back to normal within one to two and a half hours, the biochemical oxygen demand and bacteria count were more variable, returning to "normal" two to thirteen hours after dumping.

All evidence of pollution disappeared within a half a mile of the point of dumping, except for an occasional patch of slick or rubber contraceptives.

This study, therefore, concluded that the dumping area does not show any cumulative effects of pollution and that the results of the dumping activity are dissipated in a very short time and within a very short distance of the focal point.

In April and May of 1949 -- the next slide please -- and again, in April and May of 1950, additional surveys were made to check on any possible dispersal of pollution from the dumping grounds back toward the Rockaway or Coney Island shores. The results of these studies are given in the annual Harvard Survey Reports for their respective years. During one of these studies in 1949, the sludge boat carrying our chemists altered their usual return course by going in a northerly direction, as shown by B on the slide, from the dumping grounds toward the black and white bell buoy in "East Rockaway," which is about one-half mile off shore between Far Rockaway and Atlantic Beach.

This route is designated B on the slide. Samples were picked up along this return line; half a mile, two and a half, four and a half and 6.5 nautical miles from the dumping grounds and at the buoy. The vessel then proceeded westerly, parallel to and about a half a mile from shore and samples were picked up two, four and six miles from this buoy. Samples were taken at each location from just below the surface to off the bottom. Where the water was very deep, the "bottom sample" was taken at a depth of 40 feet. Four more such trips were made in '49 along a slightly different course designated C on the slide, and then along a line parallel to Coney Island to the Narrows. In April and May of '50, five more sampling trips similar to the last described also were made.

In all instances, it was very clear that the sanitary condition of the waters was excellent within a half mile of the dumping grounds, that no signs of degradation appeared until we approached the mouth of the harbor. The saturation values were highest within a half mile of the dumping grounds and the total bacterial count and the coliform concentration were lowest in this area. For example, the coliform concentration within a half mile from the dumping grounds averaged .21 per milliliter, whereas at the Narrows, it averaged 17.5 per milliliter. I might say that that concentration as of now would be a very low one. Normally we would expect to find a multiple of 17.5 per milliliter, but that's what they reported and that's what it was put down as. From these tests, one may justifiably conclude that any water coming from the dumping ground area toward the adjacent shores would only tend to improve the conditions there.

From these carefully conducted investigations, we feel justified in concluding that the present method and location of disposal of sewage sludge very satisfactorily protects our shores chemically, bacteriologically and aesthetically.

In the year 1957 the Department disposed of about 91,000 tons of sludge, measured on a dry basis. Of this total some 45,000 tons was removed from the sewage as raw sludge, the balance being digested sludge from all the other plants. This was treated at Wards Island plant.

It is planned to install sludge digestion facilities at Wards Island under the current Pollution Control Capital Expenditure Program. Ultimately, all sludge from New York City plants will be digested.

Will you show the next two slides please. Just to give you an idea of our vessel. This vessel is being loaded at Owls Head. We are currently constructing another vessel, a duplicate practically of this vessel.

The next slide please. This is a rendering of the new vessel.

I will now hand this to you, Mr. Martin, signed by the Commissioner of Public Works.

MR. MARTIN: Thank you, Mr. O'Leary. Do any of the panel members have any questions they would like to ask? Mr. Dappert?

MR. DAPPERT: No, I have none.

MR. MARTIN: Mr. Shaw, Mr. Abelson?

MR. ABELSON: Have you ever had any complaints directed at you as to sludge effects in these waters or on the shore?

MR. O'LEARY: Well, as far as I can recollect, it goes back to previous to the time that I became Director, this collaborative sludge dumping study was made in 1938, as a result of which, there was complaint to the Supervisor of the Harbor. The Supervisor of the Harbor had issued an order that sludge vessels should go twenty miles east and southeast of Scotland Light instead of eight miles east and southeast.

At that time this cooperative study was made by the Ward organizations and as a result of that report, the Supervisor did not go through with that order. Then, I understand, there was a complaint some years later by, I don't know whether it was a legislator -- do you remember, Bob? It had to do with the effects along the Rockaway shore, and that was the reason for these other samplings that we took to see whether there was any validity to that complaint.

They are the only complaints that I have any knowledge of.

MR. ABELSON: There have not been, I take it then, any consistent or chronic complaints in your studies on the survey along the Rockaway shores.

MR. O'LEARY: I got this second-hand from Tom Glenn. The Mayor of Long Branch got the complaint that some presumably garbage over in New York City was not disposed of at sea. The Supreme Court banned that years ago.

MR. STEIN: Have you ever heard statements made that the sludge dumping actually improves the fishing resources?

MR. O'LEARY: I have that on second hearsay. Mr. Gould said that there have been some representations made in an unofficial way that they should dump further north.

MR. STEIN: That's interesting. I don't think the aquatic biologists would recommend that.

MR. MARTIN: Thank you, Mr. O'Leary.

I hope none of you misinterpret my ruling with regard to questions. The type of meeting we are having and particularly the time available just precludes unlimited questions from the floor, and once you open it up, I don't quite know how to control it. Time is not so much of the essence this afternoon because of the size of our group, but we are expecting a continuing of this hearing this evening and we expect a much larger crowd, and I just can't allow procedure this afternoon that we won't be able to allow this evening.

If any of you have points about any of the matters which are raised here which you would like to comment on and either clarify for the record or give additional information or such information as you have about those, you are perfectly at liberty to do that when you make your full statement.

Next, I would like to call on Captain George Holtzman, representing the United States Coast Guard. Mr. Holtzman has submitted a written statement to us about this and I wonder if he has any additional comments which he may want to make.

CAPT. HOLTZMAN: Mr. Martin, I was just going to thank you on behalf of the Commander of the Third Coast Guard District for inviting us to attend this session. I have no other remarks to make outside of my written statement.

MR. MARTIN: Thank you very much, Captain.

Next, I would like to call on Mr. Wayne Heydecker, Executive Secretary to the Atlantic States Fisheries Commission. Mr. Heydecker also has submitted his statement to us and I wonder if he wishes to make any additional comments. Mr. Heydecker.

MR. HEYDECKER: Mr. Martin, my name is Wayne D. Heydecker. I'm the Secretary Treasurer of the Atlantic States Marine Fisheries Commission, which is a joint agency of the thirteen States from Maine to Florida along the Atlantic Coast.

Our Commission has taken no position upon this matter since its early days when it became interested in the proposal, when it was first advanced, appointed a committee of scientists to analyze whether or not this waste material would be harmful to fisheries.

On the basis of their report, a negative report, the Commission acquiesced when the Fish and Wildlife Service reported they had no objection to the initiation of the undertaking.

The Commission, however, has reserved its judgment all through these years. Its policy has been a policy of watchful waiting and if at any time, damage to the fisheries is revealed, I have no doubt that the Commission will take whatever action circumstances require.

Throughout the years that have passed since this was first undertaken, there have been numerous investigations which you, Mr. Martin, referred to and which Colonel Rogers referred to. Each of these reports has been examined by our Commission and studied, and the Commission on each occasion has concluded that there has been no additional evidence presented to it for its consideration sufficient to justify it in taking action.

It has therefore continued its policy of watchful waiting. It has therefore, also, taken a recent stand.

In 1955, it was very glad to afford an ample opportunity for representatives of the Sportsmen's Council of the Marine District to present their entire problem to the Commission at its 15th Annual Meeting, and it was reviewed, their request was carefully considered and the Commission regretted that the Commission could not undertake to carry out the request that was presented.

In reporting these things, I do not wish the panel to conclude that the Commission is opposed to further study. On the contrary, representatives on this Commission from both New York and New Jersey have expressed the hope that continuing studies will be made over a period of years in close cooperation with the U. S. Fish and Wildlife Service and the conservation agencies of the two States, to determine the effects of all forms of waste disposal in the Bight of New York upon the total ecology of the area.

Some of them feel, however, quite strongly that it is not necessary at public expense to conduct expensive research of areas that have recently been re-examined and reported upon by competent scientists.

I repeat that if scientific findings at any time should show damage to the fisheries, it is assumed that this Commission would act promptly in whatever manner the evidence warranted. However, up to the present time, it has continued its feeling that it has not received any evidence that in its opinion would justify action.

I have filed a memorandum with you, in which I have given you a brief summary.

MR. MARTIN: Mr. Stein, does the panel wish to ask some questions?

MR. STEIN: I have no questions.

MR. MARTIN: Mr. Shaw, Mr. Abelson?

Now, we have Mr. Don Manns representing the Long Island League of Salt Water Sportsmen, for whatever statement he wishes to present.

MR. MANNS: Ladies and gentlemen, I felt duty bound to attend this hearing today as a sort of climax to a number of years that I have personally put in as representative of various sportsmen's organizations, holding against acid dumping and in fact, all pollution occurring off New York and anywhere else, for that matter.

I have a statement that will take approximately ten minutes to read, and I want to say beforehand that we don't wish to embarrass any people present; the criticisms contained in here are entirely impersonal and I believe represent the majority of the sportsmen on Long Island and through New York.

I might say too that it has been a pleasure to see a great number of people that I have previously corresponded with through my anti-pollution activities and others that I have met in previous years. There is quite a gathering here and I hope that this hearing ends up on a successful note to abate our pollution problem.

The statement is as follows:

The Long Island League of Saltwater Sportsmen, the largest sportsmen's federation on Long Island, representing 6,000 individual fishermen, numerous sportsmen and conservation organizations, elements of the boating industry and the Boatmen's Association from Sheepshead Bay, Montauk, Long Island Sound, Freeport, is now and has been wholeheartedly opposed to the waste disposal at sea operation of the National Lead Company.

This pollution operation has been equally offensive to many thousands of unorganized fishermen, private boatmen and commercial fishermen, who have observed this pollution over the years and have expressed their indignation and distaste for this unwarranted and foul practice.

Inasmuch as Long Island and the metropolitan area is in the midst of a population growth, with subsequent decline in available land facilities for recreational opportunity, as well as commercial and industrial expansion, the natural trend to the ocean's resource for recreational needs is opening a demand for a new appraisal for water priority uses.

The Marine Sportsmen and Boatmen are heartened by the public hearing at this stage, in that they have the first opportunity in many years to record their undivided opposition to the pollution in the waters of New York Bay and to all other present and future forms of waste disposal in or near the waters embodied in the New York, New Jersey and Connecticut areas.

In this connection, a statement by two eminent biologists in 1948 are fully applicable today. The statements of Doctors Westman and Bidwell is as follows: I read the same statement at a hearing down in Virginia in 1955.

"Pollution is the number one conservation problem in the region of New York State. It has caused more damage to the fisheries than all other man-made factors combined. It is a result of the increasing population density and the industrial development on the one hand, and an unawareness and neglect on the other. The problem, however, has now become so acute -- this is ten years ago, but from a health and conservation standpoint, there is a rapidly spreading awareness of the need for drastic action. Unfortunately the very need for drastic action has resulted in another menace, namely, the redistribution of waste from a more heavily to a less affected location, without adequate consideration of overall consequences. In other words, by ignoring this, we stand a very real chance of bringing about a repetition of pollution history, a gradual growth of pollution in a relatively fresh region."

In review, the Sportsmen's fight against the "acid dumping" dates back to 1946 when the first moves were made by the National Lead Works to test the ocean's waste receiving potential, following a New Jersey court order forbidding that company to further pollution of the Raritan's waters. Despite numerous objections by New York and New Jersey leagues, by more substantial warnings of scientific persons that daily acid waste disposals could create great dangers to the fisheries, National Lead was permitted to proceed on its course of offshore pollution in April of 1948. As a result, scientific tests were done to determine the effects of these dumpings. Halfway through these surveys, the company was given a different dumping location. This survey concerned itself mainly with factors other than the effects of waste on fish life, and a negative report in 1950 was tempered with the statement that "final evidence on whether the pelagic fish are being harmed by the waste disposal operations will probably come only from the experience of the fishermen."

Years passed with attempts to halt this dumping, until 1956, 1957, when a Sportsmen's sponsored survey of the area was made over this period. Although League personnel enrolled in this survey from start to finish, the factual findings of this financially limited study was left to others to report on. It should be fully noted that in the past decade of dumping in this area, no efforts of officials have been made to induce the professional fishermen or the sports fishermen to seek evidence, to keep records or to report private observations made over the years, pertaining to the effects of the wastes of fishing productivity. On the contrary, they have been discouraged in every attempt to persuade conservation, health and other such agencies to investigate and ~~re-evaluate~~ or consider any other solution as an alternative to offshore dumping. The whole burden of proof has been placed on the innocent party while the offender has found sanctuary in the form of a privately financed and widely exploited scientific survey made in the initial years of the disposal.

It is the opinion of the Long Island League of Salt Water Sportsmen that the cumulative effect of ten and a half years of such continual dumpings, during which period a total tonnage of 17 million tons of acid, sulfuric acid, ferrous sulfate and unknown waste compounds have been discharged over and about the most precious fishing grounds in the North Atlantic and have in fact, been responsible for the following conditions:

A. They have caused a definite diversion of food and game fish from the contaminated waters that would otherwise provide the ultimate in beneficial properties for the propagation of all fish life.

B. That the resulting operation and the subsequent surface and sub-surface drift of matter has caused considerable damage to aquatic organisms, plankton and plant life.

C. They have caused adverse consequences to the spawning and migratory habits of the most desirable species of fish in this region, and has been of influence on even coastal fish.

D. That the dumpings have caused unnecessary hardships and impositions on the passenger, charter, commercial and the overall fishing in this region.

In conclusion, the League submits the following recommendations to abate this problem and its ramifications.

1. That the National Lead Company and other potential pollutors be compelled to fully resort to what are known to be previously used, presently existing and otherwise feasible methods and processes for economically converting iron sulfate wastes, sulfuric acid and other substances from wastes presently dumped off shore and that such treatment plants be placed in operation within a three year period.

2. That in the Federal waters where the dumping exists, the Federal Government institute a new and comprehensive survey with a major proportion of such investigation devoted to the effects of pollution of the ocean resource and fisheries.

3. That pending the results of such long range survey on the effects of offshore disposal, that any and all other applicants for similar disposal permits be duly refused.

4. That the Public Health Service and other government agencies support corrective pollution legislation to properly protect these waters from further misuse, such as that annually introduced by Congressman Francis E. Dorn of New York, namely HR 3106 and 3107 in the 84th Congress and HR 5406 and [illegible] in the 85th.

5. That the Federal Government forbid the dumping of radioactive or similar wastes that are in any manner considered hazardous to human life, within one thousand miles of our Coast, and only then when positive proof is shown that such is a safe distance and further, after every precaution is taken, to prevent absorption of radioactivity by migrating food fish.

The Long Island League of Salt Water Sportsmen hereby requests the U. S. Public Health Service to fulfill their responsibilities to protect the public's rightful interest in this matter by taking positive action to eliminate any and all offshore disposal operations.

From the Long Island League of Salt Water Sportsmen, respectfully, Don Manns, Executive Secretary.

MR. STEIN: Mr. Manns, would you mind waiting for questioning.

MR. DAPPERT: I would like to ask a question, Mr. Manns. In your statement, I think you said that since 1946 or '47, no State agency, either the Health Department or the Conservation Department has made any move or expended any effort with relation to this problem.

MR. MANNS: The statement I made, Mr. Dappert, was that no efforts were made by these agencies to induce the professional or sports fishermen to submit statements or to keep records or to report facts of their own.

MR. DAPPERT: That's what I am getting at, because in 1953, the Boatmen's Association, I believe of Freeport, petitioned the Water Pollution Control Board to look in on this problem and do what we could to see what it was all about. We had no resources to make any comprehensive investigation, but we did explore the avenues of information that were accessible to us and we did furnish a summary.

Now, I think the following year, myself and Dr. Senning of the State Conservation Department held a meeting in Freeport. Captain Marinaccio was there I remember, and there were 15, 16, 17 representatives of the sportsmen and boat industries, and at that meeting, the thing that we were trying to do was to encourage the boatmen and so on to develop some kind of a systematic scheme for recording the data which later could be used to -- as evidence to support the plans which were being made. Has that ever been done?

MR. MANNS: Was there any follow-up on that, Mr. Dappert, to see if the boatmen had done this?

MR. DAPPERT: No official agencies could tell these boatmen and so on, it had to be organized among themselves and that's what we were trying to do.

Now, had they done the thing along that line, are there any data to support these arguments?

MR. MANNS: What I was saying, Mr. Dappert, is that there is some data. Captain Marinaccio of the Freeport Boatmen's Association made a report on that.

MR. STEIN: Do you have any further questions?

MR. DAPPERT: No.

MR. STEIN: I would like to ask you a few questions. One, I think, we should make the comment first, that we should all understand the scope of this inquiry, this fact gathering inquiry here, and that is to deal with offshore dumping. Several remarks you made earlier, in the early part of your statement, deal with pollution in the New York area. Now, I don't think there is much doubt that that exists, but the question is whether the damage actually comes from discharges from shore installations or whether that comes from offshore installations, dumping installations.

Here we are only considering the dumping installations. Now, there are four points you made as to damages and I would like to go over them, perhaps, one at a time and go over all of them, to see if these are hypotheses or charges that are made, or whether these are statements where the fishermen and others have the information.

I might say before we start that the Public Health Service, and as far as I know, all the official agencies, welcome data collected by sportsmen and other groups, because that is the one source that we have of finding what the effects of pollution control measures have on the people.

Now, the first one is diversion of food and game fish presumably from a certain area, of the acid dumping area marked up there -- now, has that been supported by observation?

MR. MANNS: It has been supported by observation by fishermen on board party boats and by the opinions of professional boatmen.

MR. STEIN: What I am trying to get at is do you think we can have for the record specific statements by the people who have made these observations as to where these fish have been diverted from, what the varieties of fish are and what the conditions were before and where they think they went. I don't think it is very, very difficult in dealing with situations like this throughout the country, and I am stating from countrywide experience, to get to grips with the question unless we have the particulars on that, and if we do, I think that will help sanitary engineering, Mr. Martin and the panel, the technical panel in deciding where to go from here.

And the next point, I don't know, you may have the same kind of information -- damage to aquatic organisms and plant life. Now, again, what is that based on, is that based on observations, specific observations?

MR. MANNS: No, there is damage to plankton, for example, I think it will be supported by Dr. Charles Wurtz of the Consulting Biologists. I happened to be aboard the survey vessel in '56 and '57 on several occasions, and actually witnessed the dead plankton after the acid barge has passed over and we took samples of the water at that point.

MR. STEIN: Well, again I think if there are indications of that, I think it would be advisable for you to, if no one else does that, to point that out to the technical panel specifically, and what the evidence is that there are dying plankton in an existing area.

I might make the same observation to the spawning and migratory habits of fish. Now, again, I don't know, is that based on observation, scientific study, what spawning habits, what fish, in what areas? Now, again, I'm saying this in a helpful manner, because we deal with these problems all over the country and unless we have that, we really don't have anything to shoot at. I might also say to your last point, the damage to charter fishing and sports groups, again a bill of particulars, how, who, where, what and why and how did this happen, when couldn't they go out, when did they have the disappointment and specifically what were they looking for?

MR. MANNS: Well, sir, I could make a statement now to every point that you have brought up. I know for a fact that Mr. Binner of the Sportsmen's Council is going to report on the damage including the damage to the plankton that I just mentioned, when he reports on the Consulting Biologists' survey. I know that Captain Marinaccio reported in more detail on the effects of turbid water and the acid wastes on certain pelagic fish, such as tuna fish. I myself have heard on many occasions that the cod fish had been diverted from the Cholera banks when the wind was in a certain direction, whereby the wastes were carried over the Cholera banks, but I would like to bring up this point and I went over it lightly in this paper.

To expect the sport fishermen or the professional boatmen to walk into this hearing with a long list of scientific proof and documented statements from biologists and doctors is entirely out of question. You cannot possibly get such data from any sportsman or from any boatman.

It will all be based on their own professional observation and certainly, a man who has been fishing in an area for 20 or 30 years or more, certainly his opinions are every bit worth looking into when believing he has been out in the area day after day, I don't think anybody else could have more experience or more data than somebody's personal observations of that sort.

Now, one of our recommendations in this paper was that these previous surveys have only touched upon the effects of pollutants on fish life, including the National Research Study in '48 and '49 and part of '50, and I am sure that most of these other surveys that we have heard mention of today were more or less along the same lines.

Now, what we have recommended is that the Federal Government, possibly the Fish and Wildlife Service, institute a new survey with 90 percent of such survey based on the effects of pollutants on fish life, rather than on hydrographic surveys, tidal movements and a number of other things that they have previously examined quite thoroughly.

MR. STEIN: Mr. Manns, may I suggest, I think certainly in the public eye, we firmly agree with your statement that fishermen can tell us what they have seen or what they heard or what they know on the basis of experience, and we would expect nothing else, but I would suggest that in the four points that you have mentioned, that you very well may send to Mr. Martin as specific, as specific statements as possible, documenting these points, not in the scientific manner, but just on what the fishermen have seen and observed and what they feel is happening on the basis of their experience.

Now, most of the scientific reports we have are designed to check the validity of these, but it is very, very difficult to mount a scientific study which is going to satisfy the questions you are going to ask and I am going to ask unless we have the specifics before we engage in the study and I think a detailed bill of particulars on all these points will aid the technical panel in coming to a conclusion.

We certainly would appreciate that, Mr. Manns.

MR. MANNS: I would be glad to forward it.

MR. STEIN: May we have your statement, by the way, as an observer. Thank you, Mr. Manns.

MR. MARTIN: We are having a meeting this evening to provide many of the fishermen who couldn't get here during the day an opportunity of coming, and I imagine we will get some of the statements, the type that Mr. Stein was talking about, this evening. At least, I am hoping very much that we will. We hope we will get everything that everybody has to contribute on this matter.

Next I would like to call on Mr. John Binner, representing the Sportsmen's Council of the Marine District for the New York -- I must apologize, I have it down here.

MR. BINNER: My name is John Binner. I am the President of the Sportsmen's Council Marine District of New York State. I have been an official of the Sportsmen's Council since February of 1954 and its president since 1957, March, 1957.

In making this report on behalf of the Sportsmen's Council and its 119 affiliated member clubs, I have taken into consideration that others will also present information of value regarding the disposal of wastes in the ocean.

For instance, Captain Carmine Marinaccio of the Freeport Boatmen's Association has informed me that he will present at this hearing information regarding the movements of pelagic fish.

For this reason, and to avoid duplication, I will confine my statements to history and the results of a biological survey of the New York Bight relative to pollution in the area commonly referred to by fishermen as the "acid grounds."

Alerted by the increasing demands of member clubs and individual sportsmen throughout New York's Marine District that something be done about the dumping in New York Bight of acid wastes from the Titanium Division of the National Lead Company of Sayreville, New Jersey, the Sportsmen's Council in April of 1954 appointed a committee to investigate the complaints and to make recommendations for corrective action.

This committee found sufficient cause for complaint by the fishermen and recommended that the Sportsmen's Council take steps to influence the National Lead Company to discontinue its practice of dumping its wastes in the New York Bight area.

To accomplish this, the Council's Anti-Pollution Committee attempted to interest Government agencies, Federal, State and local, to make a biological survey of the acid grounds to determine to what extent these dumpings affected the movement of the pelagic fish and to what extent fishing in general was affected in the area. Unfortunately, no Government agency agreed to make the survey due, in some cases, to lack of jurisdiction and, in others, to apathy on the part of the officials.

One of the Council's appeals for a survey was made to the National Research Council and that organization advised that, because of the lapse of time since an earlier, 1949, survey was made, another survey of the acid grounds might be desirable.

Undaunted by the National Lead Company's disinterest in the Sportsmen's complaints and the lack of assistance from government agencies, and encouraged by Representative Francis E. Dorn's anti-pollution measures in the U. S. Congress to prohibit the disposal of such wastes in coastal waters, the Sportsmen's Council appealed to its member clubs and to individuals to contribute toward a fund to be used to engage a reputable firm of consulting biologists to survey the acid grounds. As a result, 98 sports fishing and conservation organizations and approximately 100 individuals contributed amounts from $1.00 to as much as $300 each.

On July 5, 1956 the Sportsmen's Council entered into a contract with the Consulting Biologists of Philadelphia, Pennsylvania to undertake an investigation entailing biological and chemical studies of the New York Bight area relative to the waste disposal practices of the National Lead Company at Sayreville, New Jersey. The field work of the survey began on July 1, 1956 and extended through August 4, 1957 and the laboratory studies extended into December 1957. The Consulting Biologists submitted its report to the Sportsmen's Council on January 14, 1958. A copy of this report is herewith submitted.

Because the limited funds available could not support an intensive study of the Bight relative to pollution, the data derived from this survey was very limited. It is my firm opinion, however, that this limited survey did point to the desirability of further exploring the effects of pollution on fish life in the New York Bight in a more elaborate phase than was possible with the funds available.

The finding that fish larvae and certain of the plankton were apparently killed by freshly discharged acid waste is, in itself, alarming and should be seriously considered and further verified.

The probable drift of pollution in the area toward New York's many beaches as indicated by the drift bottle phase of the survey would also indicate reasons for further study.

Further study of turbidity and the movements of contaminating slugs of the National Lead Company wastes are recommended. It appears from the survey that the cohesiveness of these waste dumps is far more prolonged than previously believed and if several such slugs of turbidity are represented in the Bight at one time, the effect may be reflected in fish movements.

The limited funds available for the survey also precluded a study of the movements of the pelagic game fish in the New York Bight. This is, without doubt, the one factor that is of the greatest interest to the fisherman. A study of the movement of these fish, will, in my opinion, disclose that some fishes will tend to avoid the acid grounds due to its turbid and possible toxic nature.

Now, there have been recent reports that a Connecticut firm has been hired to dump unlimited quantities of radioactive waste material in the Atlantic Ocean some 100 miles off Long Island.

In view of the recommendations of the Consulting Biologists of Philadelphia, Pennsylvania, and in view of the increasing use of the ocean for dumping of wastes, including radioactive waste materials potentially dangerous to marine and human life, it is strongly urged by the Sportsmen's Council that the U. S. Public Health Service conduct, or cause to be conducted, an intensive study of offshore disposal of all waste materials.

It is further recommended that the Sportsmen's Council of the Marine District of New York State be invited to be represented at the proposed technical meeting to be held at the Sanitary Engineering Center in Cincinnati, Ohio in the near future for the purpose of presenting at that meeting, the viewpoints of the sportsmen of New York's Marine District regarding the practice of offshore disposal of wastes.

I would like to say, if you have any questions regarding the technical aspects of the surveys, Dr. Wurtz of the Consulting Biologists is in the room, and I would prefer that he answer any questions of that nature.

I would like to present to Mr. Martin a copy of our survey and also the copy of my talk.

MR. MARTIN: Thank you, sir.

Mr. Stein, we have Dr. Wurtz on the list to make a statement and we might want to wait until he speaks before you ask questions, or whatever you wish. He will speak, he will be given an opportunity.

MR. STEIN: Yes, we can direct our questions to both of them. May I make one comment before you sit down. I notice you talked about apathy of public officials. Perhaps the apathy of public officials, when you look into it, may be the same problem you folks have with your survey. As an old-time bureaucrat, I may say that that's a limiting factor, this lack of funds.

MR. MARTIN: Would you like to have Dr. Wurtz now?

MR. STEIN: Yes, if we could.

MR. MARTIN: Dr. Charles B. Wurtz, representing the Consulting Biologists of Philadelphia.

DR. WURTZ: May I make a few introductory comments before any questions come?

I have always been lead to believe that a public hearing of this nature was an introductory thing, before further studies were undertaken or further steps. I sometimes had the feeling this afternoon that this thing was going to appear in some legal journal as a decision of an Appellate Court and I am a little bit embarrassed.

It has now been somewhat more than a year since I last worked in the field on the pollution problem of the New

York Bight. At that time, we were under contract with the Sportsmen's Council of New York State, Mr. Binner was President, Mr. Manna was the Chairman of the Anti-Pollution Committee. The work that we did and the report that was ultimately submitted to the Sportsmen's Council, was published by the Sportsmen's Council. I do not know what size the edition was, that is, how many copies of the report was prepared, nor do I know what the distribution of that report amounted to.

I do know that we got a half a dozen copies in our office and the distribution of those, I know. I know that the Sanitary Center of Cincinnati has a copy of it, a copy to Bill Ingram as I knew that he would be interested in it.

The work that we did was based on the theory that you can't dump anything into the ocean without its having some effect. However, we approached it purely from the technical standpoint and the Sportsmen's Council and the Freeport Boatmen's Association and the rest of the people whose interest we were holding, held that the National Lead Company, which was their big argument at the time, was damaging the Bight.

We had to approach this and pointed out to them what we did, that we would have to approach this in an unbiased sense. That is, we would study it and whatever the data we got on the prevailing condition, that would be the sum and substance of our report, and that is the way our report was prepared.

Now, I would like to mention that as a result of that study, I reviewed the report on the way up here in the train earlier today, and there are two or three things that I feel are very valid grounds for further study. There are two or three things that I think are damaging to the Bight and that are directly related to the acid waste disposal of the National Lead Company.

At the same time, there are, perhaps not as much damage as a lot of newspaper articles would claim. But now, those two or three things that are brought out in this report, are simply indications which are the result of a very limited survey, because of limited time, limited funds and everything else, but the indications are there, and they certainly should be considered.

Now, one of the things that Mr. Binner and Mr. Manna both pointed out is our inability to go into any expensive study. It becomes self-evident to anybody associated with this type of work that it would be a highly expensive thing to do. The funds were not available for it.

Captain Marinaccio, when we first went into this survey, submitted to me a series of maps of the Bight showing the deflection of migratory fishes, the blue fish and the tuna away from their habitual grounds. Now, when I prepared the report, I did mention that we consider Captain Marinaccio a party of interest in this thing, he was very antagonistic toward this method of acid waste disposal. He feels that he is proper in his attitude and his feelings would be proper without that attitude also. So far as I know, these are the only available data that actually reflect fish movements in the New York Bight, subsequent to the initiation of acid waste disposal and I think they should be given very weighty consideration by this panel, the Public Health Service if we are going to pursue this subject further.

Another item that I would like to mention is something that Mr. Manns brought out in his conversation, to the effect that the toxic effects of this acid waste disposal on plankton, without a doubt this stuff does kill plankton. Now, you have to bear in mind that a body of water with the magnitude of the Atlantic Ocean is a terrific cushion to bounce against. You can dump an awful lot of waste in it and perhaps not do any damage, but I don't know how you can compute the number of dead plankters as opposed to the total population and figure out a percentage of how much of the kill you are getting.

That I don't know, but I do know that the subject is more worthy of further study. Now, for example, among those plankton are larvel fish, that is fish so young that they are still in the yolksac stage. I don't know of any biologist that would undertake to identify those fish down to the specific levels. I don't know whether that's the larvel fish or the sea larvae or sea bass or any other species. They may or may not have economic value. They may have economic value today and not a hundred years from now and the reverse, of course, may be equally true.

I just don't know what those fish larvae might be. I don't know whether if you discontinued acid dumping from one-tenth to one-twentieth, you would say it would save 50 percent of your sea bass population or whether you wouldn't. Those are the things I think you should study.

Now, it is an unfortunate circumstance that marine biology requires a great deal of study. As to what the potential damage might be, I don't know. All you can do is play with the few facts that you have, the indications that you do have and the studies have to be made.

I would be happy to answer questions if the panel has any.

MR. DAPPERT: I would like to ask Dr. Wurtz this. In your opening statement you made some reference to the Appellate Court or something, and if you are looking upon the panel up here at this table as being judges, let me dissipate that.

Mr. Martin in his opening remarks to this group said that this panel is simply to assist the Public Health Service in the getting of what information we can together and evaluating it with the specific purpose:

1. Determining whether or not studies along the lines you have been talking about should be undertaken as soon as possible, and whether there is enough validity in back of these complaints and that sort of thing.

DR. WURTZ: Based on what work I have done, at the expense and instigation of the Sportsmen's Council, my own opinion is that further work should be done; there are grounds for it. I feel that the Atlantic States Commission, is in a sense, perhaps, begging the question by sitting around waiting for some public agency such as the Fish and Wildlife Service or Public Health Service or the New York Conservation Department, to come out with a stronger, more elaborate study. I think they are adopting an evasive tactic, that's a personal opinion. I don't want to offend the Chairman of it or anybody else in that respect.

I also don't want to give the impression that I am being biased in my support of the stand taken by the Sportsmen's Council as to the stand taken by the National Lead Company. My sympathies may be with them, but the facts in my report must stand as they are. The only thing I draw is from the data actually gathered.

MR. DAPPERT: I would like to make one further comment. You made reference to the data that Captain Marinaccio is going to present to us shortly. In my book, that is actually the kind of factual data that is needed, not just complaints because somebody imagines something, but factual data that will support and validate those complaints. That's what we need.

DR. WURTZ: I would like to temper my remarks about the Atlantic States Fisheries Commission. I think their interests are inclined to follow those of the commercial fishermen more than the sport fishermen. I may be in error about that, but I think that basically is true. The commercial fishermen that I have had occasion to deal with in the last 15 or 20 years, they feel strongly about this as Mr. Manns and Captain Marinaccio, and I also, at the same time might point out, that I have spent more money personally going to a seaside resort in New Jersey getting no fish than I spent in five years buying fish on the market.

MR. MARTIN: Thank you very much, Dr. Wurtz.

Next, I am going to ask Mr. W. G. Bentley, Acting Director of the New York Fish and Game Commission who is here and wishes to present a statement. We have received a statement from the Commissioner of the Conservation Department of New York State. Is Mr. Bentley here to make a statement?

MR. BENTLEY: I am William G. Bentley, Acting District Director of Fish and Game, the Marine District, New York State Conservation Department.

Mr. Martin, the statement is the letter from the Commissioner of Conservation of the State of New York. I have nothing additional to add to that, but I wanted to read it to the group for their consideration; you have copies for the record.

"Mr. Sylvan C. Martin, Sanitary Director, Department of Health, Education and Welfare, 42 Broadway, New York 4, New York. Dear Mr. Martin: This is in response to your invitation to parties interested in offshore disposal of waste materials to submit statements at the public meeting to be held by the Public Health Service on October 16, 1958 in New York City.

"We have been informed that one of the offshore disposal problems involves the wastes of the National Lead Company. It is our understanding that these particular wastes do not originate in New York State and are not dumped in New York State waters.

However, many boats and a great many fishermen fishing out of New York ports regularly fish in or near the waste disposal area. This department must be concerned, therefore, if such dumping has any effect on the fisheries of the area.

"We respectfully recommend that agencies having the legal basis to do so make such studies as may be required now and continue to make periodical examinations of the area at such intervals as will assure adequate scientific analyses of possible effects which may exist or may accumulate or may be created by changing conditions in the general area.

"This department is also concerned about the possible effects of offshore waste dumping other than the National Lead waste. Each case must be considered separately in the light of the material to be dumped and the area into which it is to be dumped. We respectfully request that you continue your cooperation in informing this department of all planned or impending changes in offshore waste disposal practices so that we may have the opportunity to consider possible effects on the fisheries and other natural resources of interest to the State and its citizens. Sincerely yours, Sharon J. Mauhs, Commissioner, Conservation Department, State of New York."

That's our statement.

MR. MARTIN: Thank you, Mr. Bentley. Are there any questions?

MR. DAPPERT: No, I have no questions.

MR. STEIN: Mr. Bentley, just one question. Recognizing this as being outside your jurisdiction, do you have any specific knowledge of reports as to fish damage whatever in this area?

MR. BENTLEY: No, sir. We have no records, no factual information.

MR. STEIN: Thank you, Mr. Bentley. Mr. Martin?

MR. MARTIN: Thank you, Mr. Bentley. I would like to call on Mr. William Paulsen, Atlantic Coast Marine Sportsmen's Association. (Not present)

Captain Carmine Marinaccio of the Freeport Boatmen's Association.

CAPTAIN MARINACCIO: Gentlemen, regarding the New York Bight, it is the experience of the fishermen that the fishery of tuna and tuna-like species has been virtually destroyed in the 400 square mile region north of the line extending eastward from Asbury Park, New Jersey and intersecting a line south of Jones Beach, Long Island, New York.

We attribute this condition to the acid waste that has been dumped here since 1948. It is our studied observation that at any given time water heavily discolored by acid wastes covers more than 150 square miles and that 300 square miles of water is discolored to a lesser degree, and that this polluted water causes the tunas to avoid the outlying area.

We declare with alarm that in the 1958 season, the best tuna year of the past 20, showed practically no tunas crossing the abovementioned area, yet immediately adjoining areas were particularly productive, and such has been the case since 1948, the year the acid dumping started.

It is common knowledge that prior to 1948, the inner New York Bight which includes the Mud Hole area was the most noted tuna ground on the Atlantic Coast.

Notwithstanding the excellent catch of blue fish in the Bight at times, may I explain that blues frequent polluted water, as evidenced by the numbers being caught in bays and harbors, the tunas have avoided consistently the area outlined above. This fact causes us to believe, without qualification, as you must, that the acid wastes are distasteful to the tunas. This is common knowledge, I might add, among the fishermen and can be attested to by the many expert fishermen involved whose testimony is acceptable as evidence in any court of law.

The test tube type of evidence demanded by agencies committed to act as referee in this dispute is unreasonable, due to the many imponderable factors. Furthermore, their insistence on the type of evidence which is unobtainable is not only unjustified but it leaves us no alternative but to believe that favorism is being shown to dumpers, who according to law is the burdened party. This biased attitude has left the fishermen bewildered.

Continued acid dumping here is depriving the people here of New York City, New Jersey, Long Island their most valuable fishing grounds. Moreover destruction of the tuna fisherys in the area is not only an economic blow to waterfront communities, but also is imposing a tremendous hardship on the fishing fleets, a hardship that may well prove disastrous within the next few years.

On behalf of the thousands of people earning a livelihood in the fishery and the millions more for whom the New York Bight is the only available fishing area, we hereby beseech you to request the Supervisor of New York Harbor to stop the dumping of acid wastes anywhere in the New York Bight within one hundred miles of the shore.

MR. MARTIN: Thank you.

Do you have any questions?

MR. STEIN: What do you mean by the blue fish cycle? Do you mean that these fish come in a cycle and then disappear for years?

CAPTAIN MARINACCIO: It has been the observation of people that have kept records in the past that you have a series of good years and a series of bad years for all types of fish. Now, the blue fish have been on the decline for the last two or three years. They reach a low ebb, I'd say, each year for the last ten or twelve years.

MR. STEIN: Your opinion is that this offshore dumping has had no appreciable effect on the normal blue fish cycle?

CAPTAIN MARINACCIO: No, no, it hasn't been noticeable.

MR. STEIN: Now, certainly, let me ask you this. You do not think that the effect on tuna is due to one of these cycles?

CAPTAIN MARINACCIO: Absolutely not. I can explain that further if you wish. The reason is we had a series of warmer winters and the point that the tuna reached extended further north for a number of years and then receded further south again. We had excellent, in all that time, the fishermen from Atlantic City had excellent tuna fish, the same as they did this year. The fishing was excellent from Fire Island eastward and at Montauk, but the year that the acid dumping started was the year that the fishing stopped, I mean stopped, 99 and a half percent in the Mud Hole area, and we have not caught any tuna fish there at all.

MR. STEIN: While they have caught fish from Fire Island on out and down south --

CAPTAIN MARINACCIO: Yes, south of Manasquan, I'd say, and east of Fire Island, yes, sir. Whereas before that time, the Mud Hole area the three ports, Manasquan, Sheepshead Bay and Freeport.

MR. STEIN: Let me ask you, what kind of tuna fishing are the folks engaged in, is it both charter fishing and commercial fishing?

CAPTAIN MARINACCIO: Sir, I mean charter boatmen particularly, but I have in writing the support of practically every fisherman that fishes for a living within New York.

MR. STEIN: Are there any commercial tuna fishermen who fish the Mud Hole? Were there?

CAPTAIN MARINACCIO: I might explain, the charter fisherman makes a living any way he can fishing. If he doesn't have the party, he goes out and catches the fish, makes a day's living by catching the fish. Boatmen spend a day and a night and successive days fishing at the Mud Hole.

MR. STEIN: I think we all know from our general knowledge that that's what charter fishermen do for a living. What I was getting at, is -- was there a commercial fishing fleet which largely went on commercial fishing and just did charter fishing on occasion or was the tuna fishing in this area largely sports fishing and charter fishing?

CAPTAIN MARINACCIO: You have to go a little deeper than that. There was no commercial tuna fishing to speak of in the whole Atlantic Ocean except in the last couple of years. The Japanese started, I think, three or four years ago and there's a little commercial tuna fishing in the Gulf of Mexico at the present time, but there was no extensive commercial tuna fishing anywhere in the North Atlantic to my knowledge, previous to 1950.

MR. STEIN: Now, in the Mud Hole area that you speak of, about how many charter fishing boats would you say were seriously affected by this?

CAPTAIN MARINACCIO: Well, the number of folks that fish there altogether, I would say number a thousand. The charter boats, I would say, roughly 400. The open boats, I would ask Mr. Martin, do you know?

CAPTAIN J. MARTIN: Well, there are 30 in Sheepshead Bay and possibly 50 in the New York Bight area.

CAPTAIN MARINACCIO: Those 50 boats are larger boats. They carry up to 150 people.

MR. STEIN: I don't think this goes to the basis of this subject, would you say the charter trips, the customers, are less or less frequent because of the lack of tuna fish? Would they be more if the tuna were there? Let's rephrase it.

CAPTAIN MARINACCIO: I would say our business suffered this summer by at least 30 percent. You've got to take into consideration inflation and business cycles and everything else, but if you took a level, say the average boat made 150 trips a year and this year they only averaged 95 or 105, I mean, that's the only information I could give you. I would say that they were affected.

MR. STEIN: Were you personally affected in your business?

CAPTAIN MARINACCIO: Yes, I was.

MR. STEIN: Now, let me ask you one question, and this may be difficult. How do you determine that the water is discolored by the acid, in your observation?

CAPTAIN MARINACCIO: It's very simple. It's a dirty brown. It's a dirty brown color.

MR. STEIN: What is the water normally or before they began acid dumping?

CAPTAIN MARINACCIO: The water, I would say, when you get east of Fire Island and south of Asbury Park, that close to shore, it turns a blue green usually; I would say as a general rule, blue green. You have a discharge from the river which has a slightly brownish color, but it's different than the acid. The acid is more on the yellow side.

MR. STEIN: When you leave Freeport, you don't see this discoloration of the water near where you dock your boat, do you?

CAPTAIN MARINACCIO: The closest I have seen it is at the Whistle Buoy at Fire Island Inlet. That's three miles from shore.

MR. STEIN: Do you want to point out where you generally see it and how far out that extends?

CAPTAIN MARINACCIO: At this point here, they start at this point and they go six miles in this direction and back in this direction. I don't think they dump there even in the winter time. I always see them over here.

MR. STEIN: Where do you see the discoloration?

CAPTAIN MARINACCIO: The discoloration -- you've got to bear in mind that the ocean is liquid and that this discoloration can move in any direction depending on the currents, and I have seen it from this point to Ambrose Lightship, just off shore of the Shrewsbury Rocks, just off shore of Sharp River Inlet and I have seen it actually, bodies of it, patches of it, up to 40 miles off shore, up to 40 miles off shore.

It is a complete misstatement, I wouldn't use the word, that the acid waste is not seen after three hours. Every fisherman in the area says that you can see one dumping at least for three days.

MR. STEIN: You can distinguish, though, when you get into that area. I assume you do the bulk of your fishing in this area now, is that correct?

CAPTAIN MARINACCIO: All of it, yes, sir.

MR. STEIN: All of it. Have you caught many tuna in the last few years?

CAPTAIN MARINACCIO: Last summer, I had one of the best tuna years that I have had in 20.

MR. STEIN: Where did you catch that, right in this area?

CAPTAIN MARINACCIO: East of Fire Island.

MR. STEIN: Oh, you had to move east of Fire Island?

CAPTAIN MARINACCIO: Yes, we had to go a longer distance, and may I add that it has been practically impossible for the boats from Sheepshead Bay to go out here; they can't make it in one day. As far as Sheepshead Bay is concerned, tuna fishery is non-existent. It has been destroyed.

MR. STEIN: How many tuna have you or your parties caught west of Fire Island when you have been in those waters, in the area you have described as seeing the acid?

CAPTAIN MARINACCIO: You say how many tuna have I caught west? Now, in my letter, I say south of Jones Beach.

MR. STEIN: South of Jones Beach.

CAPTAIN MARINACCIO: I would say it is practically nil. When we ride, we ride south, which is in this direction, and the closest that have been caught this year is south, on rare occasions, from south of Jones Inlet, that's been about the line, right there. This mark where they have Cholera Banks is not what the fishermen call Cholera Banks. A few that the boat caught were in the vicinity of the Cholera Banks, which is south of Jones Inlet.

MR. STEIN: In order to give us a slight description of the business, generally how many people are taken on a charter boat?

CAPTAIN MARINACCIO: Well, the number of people that go on a charter boat is gradually increased through the years. There was a time when the average charter boat carried four, five or six people, but today we carry anywhere from six to thirty or forty.

MR. STEIN: What is the average cost to a person to go fishing on this boat?

CAPTAIN MARINACCIO: Roughly, fifteen dollars. It runs to fifteen or twenty dollars.

MR. DAPPERT: You mentioned something to the effect that there are other charter boatmen and so on, that kept records that could substantiate all the observations and so on that you have given us. Would it be possible to get some of these records, people that have kept records of the catch and the number of trips and so on, in years before the dumping began and the years afterwards, and something about the --

CAPTAIN MARINACCIO: Mr. Dappert, I would like to go into that just a little bit. A lot of these people that operate charter boats are not the type where they could get up and make a formal statement or keep records that, you know, that would show anything, but a fisherman that fishes for a living, the same as an artist or any professional man or a doctor, he doesn't quick run into his files to see what happened that year or what happened the other year.

A doctor looks at you, he looks at your eyes or takes your pulse and he has a pretty general idea of your physical condition. Now, these fishermen that I am talking about are experts, they know where to fish from day to day, hour to hour and year to year. I wouldn't lean on written and kept records. I would lean, as any court would, on the opinion and observations of these men and where they fish from day to day and year to year and why they don't go to a certain area and how things have changed, lots of things have changed.

You can't go by written records unless they can be evaluated by fishermen are useless anyhow.

MR. DAPPERT: I am thinking more in terms of this investigation leaning more towards the actual effects on marine life and so on, and it would seem to me that if we give great weight to the contention of the sportsmen and so on, if you had some data that you could put your fingers on --

CAPTAIN MARINACCIO: I kept charts from 1950 to 1955. I kept the data and every night when I got home I wrote on the chart, and at the end of the year, I got all the data together and I drew lines and everything else and I sent them to the Supervisor of New York Harbor and I sent them to Albany, I sent them to Washington and as far as I know they were never recognized as data. It is mighty disturbing.

I can make these charts up again.

MR. DAPPERT: Well, give them to me, not so much in connection with this inquiry here today, but later on, if there is a comprehensive investigation undertaken, it would seem to me that data of that kind would be very valuable in supporting the claim.

DR. WURTZ: I have some charts, Mr. Deppert, which I would be glad to lend to the panel, but I would like to have them returned.

MR. MARTIN: If we can get them with no trouble to you, we would certainly be glad to borrow them.

DR. WURTZ: I at one time extended to Dr. Ingram an invitation to review them and that stands as long as this thing is a matter of interest.

MR. MARTIN: Thank you very much.

CAPTAIN MARINACCIO: It is very unfair to ask a lobsterman or a fisherman to present scientific data. It is not fair at all, for agencies who are committed to act as referees to say to a fisherman, "Can you prove that a tuna fish was burned?" Can we put a fish on the witness stand and ask him if he doesn't like the mud hole? I mean what kind of evidence will the people take?

MR. DAPPERT: I don't think any of us, I certainly wouldn't ask a fisherman to come up with any scientific evidence, but I think that records such as you have, you've drawn some charts and so on, that's based on observation, that is something you can put your finger on, and this man claims this is the effect. Now, if we could have more of that kind of information later, I think, if an investigation is carried on, it is very strengthening, I think. No one expects you boatmen to engage in any scientific studies about this.

MR. STEIN: One last question. Do you say that the other members of the Freeport Boatmen's Association and the other people engaged in letting out charter boats in Freeport share your opinion on this?

CAPTAIN MARINACCIO: Yes, sir. This letter was endorsed unanimously at a meeting held by the Freeport Boatmen's Association. About two or three years ago, I sent a letter that I addressed to President Eisenhower, not that I expected him to read it, but I felt that I was justified in writing to him, and at that time I had the support and endorsement of several hundred fishermen as to the work going on here.

If you wish at that time I had 3,000 printed at that time, and if you wish I will send you a copy of it, with the names of all the captains that support me.

MR. STEIN: I would suggest that you send that to Mr. Martin.

MR. MARTIN: Thank you, Captain.

Next I would like to call on Mr. Mal Xavier, of the National Fisheries Institute.

Mr. Xavier, do you have a statement that you wish to make, sir?

MR. XAVIER: I don't have a prepared statement. My remarks are going to be very informal and impromptu. I have heard the statements that have been presented.

First of all, I had better tell you who I am. I am the Assistant General Manager of the National Fisheries Institute, a commercial fisheries trade association, composed of producers, processers and distributors of fish and shellfish products.

The remarks I have heard so far, and I am not too well acquainted with this problem, having had it brought to my attention during this past week, indicate that there is a great deal of work to do on this problem of study and research. That's about what I am going to take back to our officers and our people in Washington, and that's just about all I have.

I hope that this work will continue and that something concrete will come out of it.

MR. MARTIN: Thank you very much, Mr. Xavier.

Next I would like to call on Mr. Eugene F. Moran, Jr., of the Moran Towing Company. Would you care to make a statement, Mr. Moran?

MR. MORAN: Mr. Martin, I have here a prepared statement of observations with reference to the past record, and the statements of fact which the Public Health Service can easily verify during your investigation.

In any large metropolitan area, there is always a problem of disposing of waste in such a way as to cause a minimum of public nuisance and inconvenience. To eliminate all such nuisance and inconveniences, is almost impossible.

Point two, the volume of all such wastes produced in the New York Metropolitan area is well over 25 million tons. About half of this volume is organic, such as garbage, refuse and so forth, which is either incinerated or deposited ashore in unsightly fills.

The amount of waste deposited at sea consists principally of dredge material, excavations, brick bats and building wreckage together with a small percentage of industrial wastes, there is also a substantial tonnage of sewage deposited at sea which contributed to the biological cycle.

All of this waste material either sinks to the ocean floor or is fairly and quickly diffused with sea water in the ratio of one part of waste to many thousands of parts of sea water. Tests of the sea water, soon after depositing the waste material have proven that this is the case, and such tests are in your records.

After such final disposition of waste, and this is a very important point, the waste ceases to be of any further nuisance forever. The one big complaint of waste disposal at sea is not against dredgings, excavations and so forth, but against industrial wastes. The formal claim that this type of waste will kill fish or drive them away from their accustomed areas has been proven false by the experience of the last ten years.

It is in the record that the office of the Supervisor designated the original area for industrial wastes for disposal after consultation with sports fishermen and the fishing industry.

An area was selected that in their opinion was at least productive of good fishing. After a little over a year of industrial waste disposal in the first selected area, it was non-productive of good fishing and an area was selected where very little fish at the time had been caught.

After several further years of good fishing and a third area, still further from the land was designated and that is the area that we are using today. The fact that this third area became very productive of good fishing after waste disposal in that area became a regular operation is well known. It seems obvious that instead of killing fish and driving them away, it has a substantial attraction.

Point four, the main complaint about fishing in this area is not that the industrial wastes is injurious to fish or organic matter, but the presence of iron oxides in the water for an hour or two after dumping. This oxide precipitates out of the ocean when the acid is more than neutralized by dilution and the alkalinity of the sea water. The discoloration of the fishing lines and hull paint is the last remaining point of complaint of the fishing group.

When it is considered that this area of discoloration is a minor fraction of one percent of the fishable area in the Bight and the former areas of industrial waste disposal are now free of such discolorations, such complaints practically lose all of their validity.

It is the claim that the acid acts as a repellent to the fish. If that were so, there would be no reason for these fishing vessels to enter the turbid area of discoloration.

I requested the Public Health Service in this present investigation explore the contribution to the biological life cycle by the chemicals and minerals in the wastes deposited at sea and by the change in the ecology of the area after deposit on the bare ocean floor, of large and small rock and earth and mud.

It has been found out through the years that these deposits have promoted the growth of lush underwater plant life and afforded a haven for escape by the smaller fish from the large predators in the openings between the rocks, among the plant growth.

Mr. Jack Pulley of the Fish and Game column in the New York Journal American, after years of strenuous objection to dumping acid at sea, acknowledged the effect of this waste disposal at sea on fishing, and publicly requested that an experimental dumping south of Jones Beach of excavations and waste material be made.

Some scowloads were so deposited about five years ago and it has become well known, fishing in this part is very much improved after only one deposit of about 4,000 tons.

I would like to also point out with respect to the effect of disposal in the ocean, in 1934, December 31st, we had to stop the dumping of garbage and those of you in the fishing business will know that from 1936 to 1946, there was no blue fish south of Long Island in the New York Bight at all. I know because I went out to try to get them. There was another observation on fish cycles. I fish the Great South Bay and I know that today with certain fish and the tide, you can't pull them in fast enough, but if you go back there other times, same tides, same conditions, no fish. But fishermen always like to claim that the fact that they didn't catch fish on some reason like pollution.

MR. MARTIN: Thank you, Mr. Moran.

MR. STEIN: Mr. Moran, would you wait just a moment. This is in the nature of a question and observation. One thing has confused me in hearing these reports and that is the fact that some folks say fishing has been irreparably harmed and some say it has been improved. I think I am beginning to see a bit of light and see if I can be corrected on this.

I have heard today no positive statement or allegation made that the dumping of sludge has deleteriously affected fish. I think also there has been no statement the dumping of industrial wastes affecting blue fish, that is, the blue fish seem to go according to cycles, either they are there or not.

However, there has been a statement made that since the dumping of certain industrial wastes, noticeably acids, that tuna have disappeared. Now, do you have anything in your experience, Mr. Moran, to shed any light on that, or do you agree with that statement?

MR. MORAN: I would like to make the observation, only in the last ten or fifteen years since this acid has been dumped, the fishing in Westport has been terrific. The past few years it has been very bad and this year they didn't catch a single tuna, and they are thinking of giving up the international tournament and that must be 500 miles away from where we dump.

MR. STEIN: Well, there may be other reasons. We recognize that.

MR. MORAN: There are reasons for these variations in the fish catch, there is no question about that, but to pinpoint them on this, it is just looking for an excuse.

MR. STEIN: That may be, but we have had the statement here that tuna fishing has been good all around here, from Jones Point out east and from

Barnagat Light down south, and right in this area, which is coincident with sight observations of acid discoloration and the knowledge that acid is being dumped, now I just place that up as a situation, a factual situation.

MR. MORAN: May I make a statement?

MR. STEIN: Yes.

MR. MORAN: Now, on that very point, I fish tuna from Atlantic City all the way down to Montauk Point and beyond, they do come in cycles, some years they are good and some years they are bad. Every ebb tide, for six hours, twice a day, this terrifically polluted New York Harbor -- I am talking about the inland waters where someone mentioned that the coliform count was 17 times what it was off the Rockaway Coast, which is a measure of the ocean water purity. For 12 hours, six hours a day, two different periods, all of this pollution from Albany all the way down, it is flushed out right into this area where we are dumping, and no decent self-respecting tuna will come near it. You never could catch much tuna, except on the strength of the flood tides, and there have been tuna caught right in the acid dump. Vessels have gone right in and caught them.

Tuna generally don't like the turbidity, it is something that they don't understand. Acid doesn't bother almost any species of fish. I would like to correct the statement that was made before with reference to Mr. Westman. It's in your record. Mr. Westman stated that it was his opinion in 1948 that the dumping of this acid had not only no damaging effect on the fish, but it had a beneficial effect on some of them and he uses it in the therapeutic treatment of fish with fungus growth on their scales and dips them into 10 to 15 percent acid for 15 or 20 minutes at a time, whereas the acid condition in the acid dumping area doesn't exist for 30 seconds. It is immediately neutralized within 30 seconds, that has been proven and it is in your records.

MR. STEIN: Let me recapitulate this statement. It is your observation that tuna avoid the area mentioned here because of the tremendous pollution load being taken out from the New York Metropolitan area during ebb tide. However, they only find tuna over there during flood tide.

Now, I have tried to understand this. As I understand the captain's statement, his contention is that tuna have not been here since 1948 on ebb or flood tides, in close near the acid dumping area.

MR. MORAN: This has been well known, subject to the move of the water.

There is another thing, in addition to the pollution that is carried out on the stream flow, there is the pollution by dumping dredgings and mud, which have to go on all the time. You have to clean the harbor, you can't let the harbor fill up. The excavations, the rock and the brick and all that, they have a measurable discoloration and they are only two or three miles away from the acid grounds. The fish don't like to go where there is any turbidity, they go around it, they go into Fire Island Inlet and the fishing in Fire Island Inlet and the Great South Bay has been the worst this year than I have experienced in 25 years of fishing, and has nothing to do with the acid dumping.

MR. STEIN: Thank you, Mr. Moran.

MR. MARTIN: Thank you very much, Mr. Moran.
I would like to call on Mr. Carlton H. Rose of the National Lead Company, if he has anything to say. The National Lead Company has submitted a statement to us with a large file of material, and I am just giving him an opportunity if he has anything he would like to add.

MR. ROSE: My name is Carlton Rose, Public Relations of the National Lead Company. I am sure that we are pleased to cooperate in the study that is being made of the dumping in the New York Bight.

We have furnished Mr. Martin with some detailed information of the present operations and I don't think we have anything further to add at this time. However, if any more technical information is needed, we would be pleased to furnish it.

MR. MARTIN: Thank you, sir.

Next I would like to call on Mr. Guy E. Griffin of the Westchester City Department of Public Works.

MR. GRIFFIN: Mr. Martin, I do not have a written statement.

MR. MARTIN: Could you come up front so that we can all hear you a little better, sir.

MR. GRIFFIN: Mr. Martin, gentlemen of the panel, gentlemen, I am Guy Griffin, Deputy Commissioner of Public Works, in charge of sewage in Westchester County, New York.

I do not have a written statement to give you but I would like to make this oral statement. Westchester County is interested in this dumping area, since on the advice of our consulting engineers, we are planning to dispose of digested sewage sludge and have a plant under construction in this area.

Any change in the present regulations or location of that area would certainly affect the cost to the taxpayers of our county. I would like to present to you for the record a copy of a paper which I delivered to the American Society of Civil Engineers this morning, which shows economy for the county of disposing digested sewage sludge in the sea, against the cost, about four times, of incineration.

MR. MARTIN: Thank you very much. We will introduce this into the record and make it a part of the record.

Next, I would like to call on Mr. Ferris Altherr, representing J. Howard Smith, Inc.

MR. ALTHERR: I do not have any prepared statement. However, I think it should be brought to the attention of this committee and this meeting that there are other things other than the sports fishermen and the food fishermen which are very important.

In this area, there is a sizeable fish production plant operated by the J. Howard Smith Company. This operation consists of reducing the fish to a protein supplement which is used for poultry feed. This operation is quite large and we talk about our fish in millions.

Unfortunately I do not have any data to substantiate the pollution problem one way or the other, but I would feel that you people should realize that any decision you may make on this would be most important to a very large industry. We feel that any pollution in the area may have an effect, the same effect of this pollution on the fish life and the plankton life should be continually surveyed by competent people.

MR. MARTIN: Thank you, sir.

MR. DAPPERT: What areas are involved in addition to Manhattan?

MR. ALTHERR: Sir, there is a plant at Fort Monmouth, New Jersey and there is another plant in Long Island.

MR. DAPPERT: Where do the fish come from, what areas are the fish taken from?

MR. ALTHERR: The fish are taken from areas three or four miles off shore, most any place at all.

MR. DAPPERT: Would that be true in the vicinity of this dumping area?

MR. ALTHERR: I am not too familiar with the exact location of the fish. We employ several airplanes to spot these fish. Wherever they are, why the folks go out and catch them, but generally speaking, they are three or four miles off shore although they may be further out.

MR. DAPPERT: Would you have any record of the areas where you fish. Would it be available for study later on?

MR. ALTHERR: The fish and wildlife are now engaged in an extensive study on the habits of certain fish and it is possible through the cooperation of that agency to get some valuable data.

MR. SHAW: With reference to the supply, do you know if there is any change?

MR. ALTHERR: I don't actually know. I did not have access to the record. However, this last season is very fresh in my mind, it was very poor. I would not attempt to say that it was because of pollution. We are merely thinking of the long-term effect of pollution on fish, especially since the menhaden fish live on plankton, and if any pollution would affect the plankton, it could possibly do away with the fishing industry in this area entirely, which has happened to the sardines on the Pacific Coast. However, they still do not know why they disappeared. We are very much concerned with this problem.

MR. SHAW: How long has your company been in this area?

MR. ALTHERR: Twenty or thirty years.

MR. SHAW: Then you would have available, probably, some kind of a record to the supply of fish available during that period, I suppose, if there had been any major change.

MR. ALTHERR: I don't know what records are available. The people to contact would be the management of the company. But there are available records that have been published on the overall catch of menhaden and other food fish for the whole area, which are issued by the Department of Agriculture, I believe, each year.

MR. STEIN: You have no knowledge of complaints which have reached you relating to any pollution in the area causing discomfort or lack of good fishing, have you?

MR. ALTHERR: No, factually, I have not. Fishing is good and bad and I would not attempt to go into the pros and cons of why you get fish one day and why you don't. The observations that there are dead plankton and dead larvae are most alarming to us in the industry because the menhaden fish spawn all along the coast and the larvae then drift by natural currents to their grounds. If they do not have food available immediately, they will perish with perhaps a large segment of a rather large industry.

MR. STEIN: Thank you, sir.

MR. MARTIN: Thank you, sir.

MR. MORAN: Can we have his name?

MR. ALTHERR: Mr. Altherr, A-L-T-H-E-R-R, from Port Monmouth.

MR. MARTIN: Thank you, Mr. Altherr.

Next, I would like to call on Mr. J. Martin, Jr., representing the Sheepshead Bay Boat Owners. Mr. Martin.

CAPT. J. MARTIN: Mr. Martin, gentlemen, I have no prepared statement here with me, I have some record that might be available. I have spent my whole life running a fishing boat, I have worked night and day at this business. Our boats run approximately 12 months a year and we do know what is going on out in the ocean.

We represent approximately 30 boats in the Sheepshead Bay Boat Owners Association. These boats are open party boats and although I am familiar with the menhaden business and also the charter business, I prefer to speak on the open party fishing boat of which I am interested.

Several years ago, it was about the first year that they had started dumping the acid, and you have designated it here by an arrow on this chart, which I believe is quite incorrect. It should be moved over possibly two to three miles in the vicinity. (indicating)

This vicinity is what we call farms. Would you like me to just put a cross there? This ground of farms has been known as BB's Rock. It was founded by pilots, to my knowledge, about a century ago, and it has always been after the first of the year, around the first of January, it has always been a tremendous cod fish ground.

Now, we stay with the fish on Cholera Banks or South of Long Beach and Jones and we stay with these fish and work right around and sort of winter in around the farms and on the first year, also around the farms -- the farms is the rock formation, there are rocks which you can fish up and are the size of four or five pounds and possibly eight to ten inches in diameter and they are flat and they are generally much like worm eaten, so that the mussels and other feed grasses, grow into these rocks.

Now, when we fished there years ago, prior to the Second World War, when one of our customers would pull one of these rocks to the surface, they would be loaded with small mussels and other marine growths. Today, when you pull one to the surface, it is entirely bare with the exception of a film of brownish slime on it.

This brownish slime, we have never had analyzed to my knowledge, I tried to, but it compares very favorably with the brownish slime that we get on our anchor cable when the acid stain drips down by us.

Now, in the first year that they dumped in this particular area, we had tremendous cod fish, we had cod fishing the like that I hadn't seen prior to that, they were a good run of fish and lots of other fish mixed up with them and covered a territory of possibly three or four square miles. It wasn't just pin point fishing.

Well, they came down with these acid barges and started to dump and within a week to two weeks, the fishing ceased on the farms, and farms has not produced one decent mess of fish since, and that's a good ten years ago.

On Seventeen Fathoms, which is the ground directly north of the farms, and which is quite a famous fishing ground, or was -- you will have to excuse me, I don't have my glasses -- but it is approximately in this area, it has been a tremendous black fish area for us, also it has been a great lobster productive area.

Always, when you would drop down, you would catch mussels, they would run in size, six or seven inches long, tremendous mussels, and they always used to be of a very deep black, coal black in color. Today, when you pull up the piece of dumping or something from the bottom, it is completely devoid of mussels, occasionally you will catch a mussel and they seem to have the very tiny ones, but they don't seem to grow large, they stay small and then they seem to disappear.

There have been any number of cases, I personally have kept excellent records running my boat, my father before me kept very good records, and our records go back to practically 1915 and 1916, right up to the present date. We don't run a fly-by-night boat business, we spend a good deal of money for equipment, loran, radar, for the safety of our passengers, and also for the pin-pointing of fish, and we have found that the depreciation in the Seventeen Fathom area, both of ground mussels and feed on the bottom, has depreciated considerably since the acid dumping.

Now, as I understand it, you people have put dumping into three classes, the waste, industrial waste, the acid, number one, the second is rocks and mud dumping and thirdly the sludge dumping. My personal opinion is, and I share the rest of the opinions of the boys in our business, that the sludge is helpful to our fishing. I have personally laid on Seventeen Fathoms, catching black fish and had one of Mr. Moran's barges come by with mud and rock in it and they would dump it 50 to 60 feet away and it never hurt the fishing, not one single bit, but the acid is a different story.

The acid has started in this area and year by year, it is a growing paralysis, it is definitely criminal. It is growing and this area expands and expands and expands with the nucleus in here. I heard you ask, how do you know -- we run blue fish trips at night and we run through the acid water and you can hear it, it doesn't even sound like a vessel going through common sea water. Actually, the boat moves, it is the sound of a wake, it's fantastic.

Another thing, in answer to the gentlemen with the menhaden. Possibly, I shouldn't say that. When I was a boy and years ago, menhaden fishermen fished from on top of the beach down at Barnagat right up to Fire Island and every bit of their area was there to fish in and it was not uncommon to see them anywhere and any place.

The only place that I see them catching any fish today is right in under the beach and the surf because of this widening, ever-widening scope of the acid that is set down upon us.

It has ruined one of our grounds. Many, many times, you will lay, you will put your anchor out, the fishing will be good, a little bit of a current setting from the southwest would come up and you start to see a discoloration of the water and lo and behold your fishing stops and the fishing will remain stopped until an adverse current comes in and cleanses the ground and a new school of fish work in on it.

One more thing, two years ago, right almost in the center of the acid dumping, there was a lot of blue fish seen and caught. On my boat, we were one of those that caught these blue fish. We went into this acid and it was as different in color as this chair is to the floor, it was marked just as perfectly as could be.

We would lower cotton lines from the surface down and possibly 60 feet down from the boat, leave it there four or five minutes and we would do this before we would tell our passengers to go ahead and fish. We would lower these lines down 30 to 50 feet and pull them up and you could see where the acid stains stopped on the cotton line, it would be brownish and then white.

We would measure that and tell our passengers, fish at 35 feet and when they did, they caught fish. Now, those fish that were caught were brought in many, many times to the market, and by the time we got to the dock, the blue fish had already turned white, the pigment had gone right out of them, and the market men, when we can't sell our fish to passengers and so forth, the crews aboard of our boats, when we tried to dispose of our fish and send them to the market for shipping, these fish by the time they got to the market had started to decompose, they are pure white almost, in color, and they are refused entirely by the market men and the market men know what they are doing.

That's my story, thank you.

MR. DAPPERT: You indicated that for many, many years you kept very accurate records. For this comprehensive investigation, would you have records available that would be available for us.

CAPT. J. MARTIN: Sir, I have kept, when I say records, I mean log books, the type of fishing that we have done, the sea conditions, the weather conditions, very often the water temperature and so forth.

Back a few years ago, I wrote a letter to the Daily Mirror, in fact it was 1951 when there was a controversy about this acid, and it was spoken of at that time, that the water temperature -- might I read a paragraph?

This letter I wrote to the New York Journal American and the Mirror in 1951, and to quote a paragraph: "Seventeen Fathom fishing grounds has been noted for its good black fishing for many, many years. In the month of October, generally, it is best. The black fish come in early in the fall and stay throughout the winter. On Saturday, the 13th of October, 1951, we were fishing there and the blacks were biting reasonably good.

We were anchored and there was a light easterly breeze, small wind sea and a very light current from the southeast. Our depth reporting machine showed good fishing conditions on the bottom. Shortly after noon, I noticed a stream of acid water settling down upon us, caused by the light current from the southeast.

This was the first opportunity that I had to observe first hand what would happen. I immediately took temperatures of both the bottom and the surface waters. I did this both before and after the acid stream descended upon us, and I noticed no appreciable change of water temperature, thereby ruling out the chance of a cold water stream.

I left the recording machine on and as the acid stream flowed down upon us, the feeding conditions that were shown on the bottom seemed to disintegrate leaving no life visible in the recording. When this happened, our fishing was over and we did not catch another fish and had to move out of the area in order to try and locate fish somewhere else."

And the men in our organization have many, many such instances.

MR. DAPPERT: I would like to make this comment, that I think that is exactly the kind of factual information that this panel needs, locations and so on.

MR. STEIN: Did you ever go tuna fishing?

CAPT. J. MARTIN: Yes, sir.

MR. STEIN: Do you do that any more?

CAPT. J. MARTIN: I caught the first tuna fish that was ever caught in Sheepshead Bay. We say north of Ambrose Lightship is the Ambrose Lightship Ridge, and it is a lump that sticks up to about 40 feet from the surface, surrounded by deep water. In the fall, I think, of 1931, we were fishing there with some passengers and we saw these tuna swimming around us. Prior to that time, I don't believe a fish had been brought into New York or into our locality of Sheepshead Bay by handline.

We got thinking about it on the way in, we picked up some bait and without passengers, just the crew of the boat and we went back out and we had no more thrown the line in the water with a big chunk of mackeral on it, we caught the tuna, it was 300 and some pounds.

Since that time, Ambrose Lightship grounds, Seventeen Fathoms, these men speak of the Mud Hole, and to me that's not quite pinpointed enough for locations, it was Seventeen Fathoms, it was one of the greatest feeding grounds that we have known in this New York area.

These tuna would be around there, and they were there after the war, the first year after the war, 1946, we again took one of our boats out on just a little private expedition and I think eight men aboard, something like 90 tuna in an hour or so before sunset.

MR. STEIN: You don't catch tuna anymore?

CAPT. J. MARTIN: Tuna are not anywhere around.

MR. STEIN: You have no indication, do you, on the basis of your opinion, have you, that the pollution has affected tuna or acid dumping has affected tuna, or this was something which wasn't too regular in that area anyway, and they may have disappeared.

CAPT. J. MARTIN: It is quite obvious to me that the acid has stopped any chance of catching tuna in that area or any area where the acid is. It also has stopped any chance of mackeral in that area or any possible chance of menhaden in that area.

MR. STEIN: That extends over the area you call Seventeen Fathoms, is that correct?

CAPT. J. MARTIN: You mean, the --

MR. STEIN: What I am trying to get at is you mentioned cod fish, blue fish, black fish and tuna and several other fish you caught in certain areas. Do you have to avoid those areas now in catching those fish?

CAPT. J. MARTIN: No, no, we catch black fish on Seventeen Fathoms, we caught them there yesterday, but the first time that we get a current from the direction of the acid, or a heavy storm, it will just kill the fishing there and then the fish won't come back there until there is an adverse current which seems to cleanse that particular ground.

MR. STEIN: In other words, you are catching about the same variety of fish that you have caught in the past, except when, as you say, a current of acid comes in, the fishing is gone for a while until it is cleaned back.

CAPT. J. MARTIN: Yes and no. This acid has started in a small area, the dump. Now through the years of washing and expansion and more acid, our area for catching fish is practically finished. If we would catch, maybe, a mess of fish in one place one day, and I say a mess of fish, we pick a half a dozen fish, and then it would be over. These huge quantities that used to show up and stay and remain in this area, it is non-existent now.

MR. STEIN: Let me try to pinpoint this, to your business, how does this affect you? Do you have to avoid certain areas, use more effort and more gasoline to get fish, have less customers? How does this affect your operation?

CAPT. J. MARTIN: Well in a month to month operation, in the winter months it has hurt us tremendously.

MR. STEIN: How does it do that? Specifically, if you can --

CAPT. J. MARTIN: Well, when we catch fish, we carry people and when we don't catch fish, there are just a few people that will come down, sort of give us an existence, they want to get out of the house, but the money that is to be made in our business is through great companies of fishermen wanting to go fishing, not the stragglers, the diehards, the persons that will never give up thinking that maybe today we will catch them.

Through January, February and March, most of our boats are forced to tie up at the dock whereas before we enjoyed a good business with the exception of extremely cold winters or extremely cold spells.

March and April have always been slightly slow for us, no matter what the fishing conditions were and generally, years ago in May, these schools, these tremendous schools of mackeral would come up and I have seen Mays that have been as big a month as we have had at any time of the year. People were most enthusiastic about catching.

MR. STEIN: Now, you do not get them.

CAPT. J. MARTIN: Now, we absolutely do not have a mackeral run in the spring.

MR. STEIN: Okay, now let's go back to the winter. What don't you have in the winter in terms of fish which make people not come? During the winter months, December, January and February, it has been relatively slow, but you say people will come out if there is news that the fish are running. Is that because you cannot find locations during the winter to catch fish?

CAPT. J. MARTIN: Possibly I did not make myself clear. In January, February and March, we used to enjoy this tremendous cod fishing in and around the farms.

MR. STEIN: Is that there any more?

CAPT. J. MARTIN: No, it is absolutely not available.

MR. STEIN: What is it that is not available, in your opinion?

CAPT. J. MARTIN: Because of the acid dumping.

MR. STEIN: And you think that's gone as far west as the farms to affect the bottom life there?

CAPT. J. MARTIN: I'm very sorry, I didn't get your name, sir.

MR. STEIN: My name is Stein.

CAPT. J. MARTIN: Mr. Stein, I am very sorry you don't have this chart so you can see it.

MR. STEIN: I can see it, go right ahead.

CAPT. J. MARTIN: Can you see it?

MR. STEIN: Yes.

CAPT. J. MARTIN: This area is where they first dumped, the farms area is where they first started to dump the acid. They have a dump there and to my knowledge, it is seven or eight years, and still that ground has never produced since, and they only dumped there one year, one or possibly two years, to my knowledge, but that ground has not produced since.

MR. STEIN: Where are they dumping now?

CAPT. J. MARTIN: They are dumping off in this area so if we are fishing in this area and a dredge works down, why it hurts us, but from here through, this used to be sort of a winter haven for the fish, and it is absolutely non-existent to us now.

The only type of fish we catch now are the fish inshore off Scotland Lightship and they are up in here. The cod fish are gone. When they leave our Bights, we don't see them again, but they do, I understand, see traces of them down around Cape May and quite a bit to the south.

MR. STEIN: How about the mackeral fishing. You say that's gone too?

CAPT. J. MARTIN: Yes, sir, that's gone. The spring run of mackeral, they usually work up on about a hundred foot curve, that would be in this area here. Now, this would be about the curve. You can see this dotted line coming down. As it gets down here, it gets smaller.

Now, we used to run down in May, we would run down east and southeast of Belmar and Manasquan in approximately this location. These would be the first wave. It is our belief that these mackeral work much like the geese and the ducks fly, and that they come up in about a hundred feet depth of water, and they work in along here and just about get up into here, where this hundred foot curve comes from Long Island Coast, this is what we used to call Glacamora and it was a tremendous area for tuna, blue fish and the macks.

In the spring run of the macks, when we would stay with these schools of mackeral, as they would move along and come up and go through here -- we don't see them any more. The only mackeral we do see are those that are fringed up in approximately this section and that's just about where they have been this year, right in the blue section, or up in through here, this has been very productive with mackeral and as you get out here, then they seem to work out and get down quite a bit.

In fact, Tom caught tuna this year and every tuna was loaded with mackeral, they were feeding on them. So this area here, this over-expanding acid area has pushed and narrowed our grounds down so that now our fishing -- our sea bass and porgy fishing is the same way, we catch them up in under the beach.

MR. STEIN: Okay, let me say -- the mackeral, you said, came January, February, March and May, is that so?

CAPT. J. MARTIN: Approximately May is our mackerel month.

MR. STEIN: What comes after that?

CAPT. J. MARTIN: Then we catch sea bass, porgies and blue fish.

MR. STEIN: For the rest of the year.

CAPT. J. MARTIN: For the rest of the summer, until about this time of the year.

MR. STEIN: For the rest of the summer. Now, has this acid dumping affected that?

CAPT. J. MARTIN: It has not affected the sea bass, porgies and fluke to any great extent, because they are rock and great inshore feeders. They come up in here to spawn in the bays.

MR. STEIN: Now, at this time of the year, what have you been catching?

CAPT. J. MARTIN: We are catching black fish now, we are catching them in along the beach and out as far as Seventeen Fathoms.

MR. STEIN: Has it any affect on the black fish, in your opinion?

CAPT. J. MARTIN: The black fish, yes. They are by far not great in numbers, but you see, with this acid condition off here and should this current start to push it in, when it does we just don't even bother going to this location any more, we fish in here.

MR. STEIN: Is there anything other than black fish up to the end of the year?

CAPT. J. MARTIN: For us?

MR. STEIN: Yes.

CAPT. J. MARTIN: The cod fish should come in within the next two or three weeks.

MR. STEIN: But you said that the cod fish don't come in any more.

CAPT. J. MARTIN: Oh, no, I said that the cod fish do not come in at the farms and Seventeen Fathoms, but they certainly come in at Cholera Banks, that's a tremendous area.

MR. STEIN: Now is it actually detrimental to you and more expensive to fish in Cholera Banks as an alternative, rather than the farms?

CAPT. J. MARTIN: This is a heritage that I believe has been going on for centuries, that these cod fish worked from Nantucket right on down and wintered here in the New York Bight. They always have. This Cholera Banks area, it is right about here and these fish come down and they come down in huge waves, in millions and millions. They cover every little feeding spot all along the beach, but because the Cholera Banks is a large rock formation, the greater number is there.

MR. STEIN: Let me ask you the question, why did you on occasion take your customers to the farms for cod fish, rather than Cholera Banks?

CAPT. J. MARTIN: After the first of the year, these fish come in - maybe I could explain it this way, on a timetable - they are at Montauk now we know, and we are starting to see strays here, so that the 15th of November to the end of December, they are in this area, and it is pretty close to a timetable.

This is where we fish. Now, after Christmas, it seems like the first real cold spell or the water condition gets lower, these fish leave Cholera, they always have, and Cholera Banks becomes as dead as can be and the fish used to work around and this would be the area that we would catch them.

MR. STEIN: Around January?

CAPT. J. MARTIN: That's right.

MR. STEIN: Now, where do the fish go?

CAPT. J. MARTIN: We have no idea.

MR. STEIN: Thank you very much. That's been very helpful.

MR. MARTIN: We have four speakers left, and this is running a little bit longer than I had anticipated. I wonder if we can stand up and stretch our legs a little bit.

(Whereupon a short recess was taken.)

MR. MARTIN: Can we continue now? We still have four people who wish to speak. Can we get started? Would you please resume your seats?

Next, I would like to call on Mr. Leslie E. West, representing the Joint Meeting of the Municipalities in Essex and Union Counties, New Jersey. Mr. West.

MR. WEST: Mr. Chairman, I am sure my remarks won't take up much time. We were apprehensive when this meeting was called of what might be the effects on the relocation of the dumping grounds at sea from an economic aspect in connection with the costs of waste disposal.

Looking back over a period of 20 years, in fact it was just 20 years ago that an order was issued to change the dumping grounds to a point further at sea, and because no studies had been made of this area, to determine just what the effects of the sludge discharge were, the study which was previously referred to by the statement by the City of New York, was instituted and we participated in that study.

The conclusions at that time, perhaps, may still be valid, that we do not know. but we in New Jersey who are represented in this joint combination of approximately a half million people, and we have been discharging our sludge at sea since 1937, are interested in this and we pledge our cooperation to you in your efforts to determine the true state of facts regarding sewage sludge discharge.

We are rather encouraged by the statements made thus far that we are not culprits and perhaps may be in the guise of benefactors. Thank you very much.

MR. MARTIN: Next, we have Mr. Thomas Glenn, Director and Chief Engineer of the Interstate Sanitation Commission. Do you have any statement that you would like to make?

MR. GLENN: No, I have no statement to make at this time, but any information that the Commission has, we would be glad to furnish it to you.

MR. MARTIN: Thank you, sir.

Next, I would like to call on Mr. M. L. Klegerman, representing the consulting engineering firm serving the Linden-Roselle Sewerage Authority. Mr. Klegerman represents Alexander Potter Associates, who are consulting engineers for the Linden-Roselle Sewerage Authority.

MR. KLEGERMAN: I feel the fact that the statement has been made this afternoon that sludge is helpful to fishing, perhaps we can reduce these remarks and say it is the first nice thing I have heard said about any form of sewage disposal.

The Linden-Roselle Sewerage Authority operates a sewage treatment and disposal facility located in the City of Linden which serves an area which is coterminus with the boundaries of the City of Linden and the Borough of Roselle.

Now then, the Roselle Sewerage Authority also provides service for the Rahway Valley Sewerage Authority, the latter authority serves the following communities in New Jersey: Springfield, Elmwood, Roselle, Roselle Park, Mansford, Westfield, Rahway, and part of Woodbridge Township.

The approximate populations served by these authorities are 68,000 in the case of Linden-Roselle and 140,000 in the case of the Rahway Valley, making a total of

208,000. Sewage in both instances, is stored and concentrated and barged to sea for disposal at approximately monthly intervals. Sludge from the Linden-Roselle facility is undigested. Sludge from the Rahway Valley facility is partly digested.

Sludge from the Rahway Valley installation is pumped to Linden for storage and concentration and barge loading. The disposal area is familiar to you and I won't repeat this portion of the statement.

The concentration of the sludge varies from about 8-1/2 to 9-1/2 percent. During 1956 and 1957, the following quantities of sludge were disposed of.

On a dry basis, 4,400 tons for 1956,and 1957, 4,200 tons. On a wet basis, about 51,000 tons in 56 and about 44,000 tons in '57. The sludge dumping trends are related somewhat to the population growth and to the industrial activities in the area.

That is the written statement which we submitted and perhaps one or two other little comments which have occurred from listening here this afternoon might be in order.

We are familiar with the survey of the dumping area reported by Mr. O'Leary and in fact, participated to some extent in the early ones which he indicated. In light of the findings of these surveys, the Sewerage Authority that I represent considered that the practice of sludge disposal at sea as proper. The methods of sludge disposal applicable to this particular area were thoroughly investigated and that method in light of the findings of the survey and from an economic consideration were found to be superior to any other applicable methods.

Of course, it goes without saying that the Authority will really welcome this particular investigation and will cooperate in any way it can to properly evaluate the practice in the light of the current issues. Thank you.

MR. MARTIN: Thank you.

Next, I would like to call on Mr. Dudley Smith, representing the Atlantic Coast Marine Sportsmen's Association.

MR. SMITH: Thank you, Mr. Martin. I came here today more or less in the role of an observer. I think before I say anything now, I should introduce myself. I am president of the Atlantic Coast Marine Sportsmen's Association, which consists of 885 registered clubs along ten states on the Atlentic Coast and literally hundreds of additional clubs that compose the various affiliate groups that are part of the coast organization, groups such as those you heard from today, the Long Island League of Salt Water Sportsmen, the Massachussetts Alliance of Salt Water Clubs and so forth, up and down the entire coast.

In our association, we have received registration of complaints against this dumping for some time. The association has undertaken to maintain a sane position on this, and I use the word advisedly, because in the past, prior to our organization, I have heard many comments that were practically insane, in opposition to this National Lead Company dumping.

For instance, I can recall a case that a person wishing to make a case against the National Lead Company brought into my Chamber of Commerce office in Point Pleasant an actual sample of the waste product taken from the outflow ditch that ran across the marshland at Sayreville, prior to the time that they were starting to dump it in the ocean, which of course, only damages their particular point, they are trying to make.

But our association feels that this is a Federal affair. We do not feel that the burden of proof should rest with any one individual state, even if it is a water, in waters that are adjacent to the two states of New York and New Jersey. Because of the very nature of the fish that we are seeking migratory in the main part, we feel that it is a Federal proposition, that it should be undertaken by Federal authorities with a complete exhaustive survey.

The work that Mr. Manns and his group have done, we think is a laudatory movement. We compliment his group on undertaking that work and the Marine District Sportsmen's Council for undertaking their work and taking their money and doing this.

However, we feel that this has wide-reaching import, both from the vast sport fishing industry and from the tremendous ecomomic factors involved in commercial fishing. We feel that it affects all the states along the coast, all the sportsmen, affects all the economy of the coast and,therefore, the work should be undertaken by the Federal Government and our Atlantic Coast Marine Sportsmen's Association would like to urge that this council that is hearing this subject today consider, seriously consider, recommending Federal action on a large scale, on a strong exhaustive study of this, because we feel the economy of Point Pleasant, New Jersey, the economy of Atlantic Highlands, of Newport, of Freeport, of Sheepshead, it is felt in Connecticut, it is felt in Pennsylvania, it is felt all up and down the coast, and that therefore, this is a federal problem, and until we can prove it, a hundred percent prove it wrong, or a hundred percent prove it right, I don't think that anybody can sit back and say, well, let's wait and see what happens.

That's our position, gentlemen. Thank you.

MR. MARTIN: Thank you.

Now, I would like to call on Dr. A. H. Underhill, Director of New Jersey Division of Fish and Game.

DR. UNDERHILL: Mr. Martin, members of the panel, gentlemen. I don't have a written statement, but I would like to put a couple of things into the record, as far as the position of the Fish and Game, in connection with the study that you are considering.

As I am sure you realize, we are the agency charged with the administration and management of the fin fish resources within the territorial limits of New Jersey. Much of this area is, of course, beyond the territorial limits of New Jersey, but nevertheless, fish don't recognize this and the whole New York Bight area is very much inter-related from a fisheries point of view.

I am sure that you are aware that it is one of the most important fisheries areas in the world, both from a sport and a commercial point of view, and one of the most heavily utilized. We, from the very nature of our funds, have never been in a position to make as exhaustive a study as we would like of some of the conditions there and again, it is difficult for a state agency to tackle the problem of the magnitude here, particularly when it does not have jurisdiction over much of the territory.

We do feel that this problem of waste disposal, particularly waste disposal at sea, needs a careful review and a continuing study. Comments have been made on the action of digested sludge and in general, of course, as long as it is organic material, it does to a large extent, constitute fertilizer which adds to the productivity of the area.

But I am sure you gentlemen realize that as our economy changes, as various types of industrial products are developed, many of them are going into these tank sewers and sewer projects and particularly as we go into the atomic age, there is a strong possibility that there will be substances in this digested sludge which can have a very marked effect upon the ecology of the area where they are dumped, and we feel that a continuing study of this is important if we are to preserve the resources here. The same is true of the dumping of industrial wastes.

We have followed carefully the work that's been done by the Fish and Wildlife Service, by Woods Hole, by the Philadelphia Consultants, on the National Lead dumping. We are keeping in close touch with work that is still being done on the effect of that, and to date we do not have evidence conclusive one way or the other as to the effect of that dumping upon the fisheries.

There is indication that some type of fishery is improved. There is indication that others are hurt, but we don't have conclusive scientific evidence on that subject.

I would urge in this study that if at all possible that it be made cooperatively with the Fish and Wildlife Service, because I think that marine ecologists are essential to properly evaluate the effect of any of this type of material being disposed of at sea, and we would pledge our cooperation, our records and any of our personnel that would help in such a study and would strongly urge that such a study be made.

MR. MARTIN: Thank you, Dr. Underhill.

I might say in line with that, and I am sure I can say for the Public Health Service, that the Public Health Service will not only welcome, but will also solicit all the assistance we can get from the Fish and Wildlife Service and from all of the state agencies that may have information and technical assistance and skill and brains and everything else that we can get into the problem, because we feel that we need all the combined efforts that we can get to try to do the best job possible in evaluating this situation and coming up with suggestions, and, if possible, writing recommendations.

I have nobody else on my list. Does anybody else have a statement that they wish to make who might have been inadvertently missed on the list? Dr. Wurtz?

DR. WURTZ: I wonder if Mr. Rose's comments that he submitted to the panel are too lengthy to be read.

MR. MARTIN: I haven't looked at them, or I could tell you, Dr. Wurtz. I was going to say this: I want all of you to know that what has been said here this afternoon will be developed in a stenographic transcript. I am not going to promise everybody a copy of that because I don't know how long it is going to be and what it is going to cost to reproduce it and so on, but I can make this statement and I will make it, that all the material which has been presented here this afternoon, including the exhibits which were not read, will be available for any citizen who wishes to examine them in my office. If the time you happen to come in this material happens to be in the hands of Cincinnati or somebody else examining, we will make arrangements to either get a copy of it or make it available in our office, so it will be available to whoever wishes to sit down and peruse it at whatever length that they want to.

We do not have additional copies of this but I am sure that if any interested person or group has a desire for some information in it, we will cooperate to the extent we can to make that available to you.

MR. DUDLEY SMITH: Just as an afterthought, the possibility that a group such as our association might be valuable in accumulating some of the personal observations and information and data that this panel suggested would be valuable if they have suggestions as to how and why and what manner that should be accumulated, I'm quite sure that our various clubs in the groups would be pleased to undertake that cooperation because we are seeking an answer to this too. It is of vital concern to all of us.

MR. MARTIN: We certainly appreciate it and we will try to do that.

MR. DUDLEY SMITH: You can let me know and I would be glad to pass it along to all the organizations. We have a meeting coming up in November where it could be proposed too.

MR. MARTIN: Fine. Thank you, Mr. Smith.

DR. UNDERHILL: Mr. Martin, just one other thing. Some of the questions that were raised earlier about the volume of the menhaden catch, the volume of the commercial catch and to some extent, the volume of the sport fishery boats. We have some of that data available and a considerable amount of it is available from the Fish and Wildlife Service. Some of it accumulated cooperatively and some independent service. We will be happy to make it available.

MR. MARTIN: Thank you, Dr. Underhill.

I have a few additional statements which I would wish to present into the record. One is a statement from S. A. Beck, Chief Engineer of Passaic Valley Sewerage Commission. Another one is a statement by Mr. C. A. Leidecker, Executive Director of Middlesex County Sewerage Authority, and the third is a statement by Capt. J. G. Dodd of the U. S. Navy, made by direction of the Commandant of the Fifth Naval District. I would like to make those a part of the record.

Mr. Stein, do you have anything you wish to add?

MR. STEIN: No - except we may deal with Mr. Smith's statement right now as this is to the benefit of everyone else. I think what we - that the group and Mr. Martin would like to receive is a very concise statement based on personal observation, personal experience, not hearsay, what people's experiences are, and please just limit that and I think you would not need more than a paragraph or two or three, one listing the name and the address of the person and secondly, say what his experiences were in fishing in the area - as sort of a counterpart, I think we might take Mr. Martin's statement and Capt. Marinaccio's statement as to their actual experience, where they happen, when they happen and how.

MR. SMITH: I believe, in effect, other than the copy of the invitation of this hearing, but I think that the factual and pertinent information was used, and also supportable facts were used, I think, in the invitation.

MR. STEIN: That's right.

MR. SMITH: Now the question in my mind is will these opinions be given credence if they are unsupported by documentation?

MR. DAPPERT: I would like to answer that. If we can have statements along the lines of those cited by Mr. Martin, that are clear to me are based on a very personal detailed knowledge, they are certainly to be given weight.

MR. SMITH: Yes, but Mr. Martin said that he could substantiate and document these things through his log. It is quite possible that the vast amount of material that our association might gather might not be supportable by documentation.

MR. DAPPERT: It is not needed at this time, but later on if there is a comprehensive investigation of this, then I think the investigator would want to plough into records, such as evidently he has available, to produce the supportive evidence so that when you come out with the reports, you have something you can stand on.

MR. SMITH: The reason I raised that point, sir, is that I did not want to undertake a work among thousands of sports fishermen and then not have it given credence or acceptance by the investigating authority. I don't want to undertake a lot of work by all the members for nothing.

MR. STEIN: No, as a matter of fact, you might want to evaluate that, if there is experience duplicating itself.

I might tell you one technique we use, but certainly you would not want to use this, but this is the comparison you can make.

We have found that when people give us an affidavit, they generally give a pretty factual statement. I don't think you have to go to that direction. People realize that this is going to be taken down and tabulated and you may get a whole sportsmen's group which has the same experience, and that is going to be investigated, and it will if proven not to be verifiable, it will hurt rather than help the cause. I think you can get this down to a reasonable situation.

I think that is precisely what we have here because in the past, in my experience - and I am sure in Mr. Martin's experience in this - there have been many charges and countercharges flying around. Again, in the statements made here today, a relatively clear and factual picture was presented and that's what always happens when you try to put it down on paper.

MR. SMITH: I'm thinking perhaps that the investigative authority must be interested in certain statements such as are found in a whole town where the people are tuna fishing and are complaining because they have to run three, four and five hours off the beach to find tuna, when before they used to be able to come out at Manasquan Inlet and shoot right up to the productive areas. The charter boatmen are making less money even though they are collecting more. Those are the complaints.

MR. STEIN: You are right, those are the complaints. May I make this one point, and I don't want to push this too far. If they have experienced it themselves and not heard that someone has told someone who has told someone that this has happened, now that is the point.

If they, either a fisherman or a charter boatman, and they say this, that this is their own personal experience, that's what we want.

MR. MARTIN: I want to thank all of you people for coming here this afternoon. I think I would be older than I look if I didn't acknowledge with gratitude the presence of our lady friend here this afternoon. I think she has added a certain improvement to the looks of things.

A LADY: I have enjoyed it.

MR. MARTIN: I want to announce again the fact that we will recess this hearing now. We will resume it at 8:00 P.M. this evening in this room, and all of you who wish to come are heartily invited to attend.

Thank you very much for your cooperation.

EVENING SESSION - 8:15 P.M.

MR. MARTIN: Gentlemen, I would like to reconvene this public meeting with regard to the dumping of waste material in the New York Bight area. It is now 8:20 and we scheduled the meeting to start at 8:00 o'clock and I think we have given everyone an ample opportunity who had planned to come, to come.

So far as I know, we only have one addition this evening to the group we had here this afternoon who is desirous to make a statement. In view of that, I think I will dispense with the introduction which I gave this afternoon with regard to why we are here and what we are planning to do.

If there is anybody here who didn't hear that or would like to hear it again, why I would be glad to go over it with you when the meeting is over.

We have our panel here again this evening, I see we've got them all back, which surprises me, they all made it, and we are glad to see so many of you here this evening that were here this afternoon.

At this time, I am going to call on Mr. Joseph G. Blake of the Howard Beach Rod and Gun Club, who I understand would like to make a statement.

MR. BLAKE: Mr. Chairman, I have a resolution here. Would you care to have me read it?

MR. MARTIN: Certainly, Would you come up front please.

MR. BLAKE: It is addressed to: "To Whom it May Concern: At a meeting of the Howard Beach Rod and Gun Club, Howard Beach, New York, held on October 6, 1958, the following was unanimously adopted.

"WHEREAS fishermen angling for tuna fish in the fishing grounds commonly known as the Mud Hole have not caught any fish of these species in recent years, due no doubt, to acid pollution, and

"WHEREAS the waters of the Mud Hole are of an acid color, so much so, that a linen line allowed to run into this slick is discolored and will deteriorate fast, and

"WHEREAS fish caught in this slick, after being gutted, have shown evidence of the dye in the linings of the stomach,

"RESOLVED that this association will appreciate any efforts made to clear this pollution, to the end that some day after the waters clear themselves fishermen will enjoy catching fresh tuna to which they are entitled.

"Respectfully submitted,--"

MR. MARTIN: Thank you, sir. Mr. Blake, would you wait just a minute. I might explain to you, as I did this morning, this is a panel of inquiry who are representatives of the New Jersey Water Pollution Control Agency, and the New York Water Pollution Control Agency, the Fish and Wildlife Service and the Public Health Service, and in this hearing, I have been restricting the asking of questions to the panel members. I have asked them to confine their questions to such things as they feel might elicit a little bit more information from the statements that were presented, solely in an effort to get whatever facts we can on the subject. Would you mind if the panel has any questions to ask you?

MR. BLAKE: I would be glad to answer them in any way I can.

MR. MARTIN: Mr. Stein, does the panel have any questions?

MR. STEIN: I would like to ask where Howard Beach is?

MR. BLAKE: Are you familiar with the Rockaways? It is on the way to the Rockaways. If you ride on the subway to the Rockaways, it's before Broad Channel, after Ozone Park, in that area.

MR. STEIN: Mr. Blake, did you ever catch tuna?

MR. BLAKE: Yes, sir, fifteen years ago, before the acid grounds were in existence, I caught tuna fish there. I caught one that was 265 pounds. I took a boat out of Staten Island, and in later years have never heard of any tuna fish being caught there.

MR. STEIN: You caught tuna where?

MR. BLAKE: In the Mud Hole. Now, it is renamed the acid grounds.

MR. STEIN: Is your experience typical of the other folks at Howard Beach?

MR. BLAKE: Oh, it is typical, yes.

MR. STEIN: You don't take boats from Howard Beach and go out to the Mud Hole, do you?

MR. BLAKE: Certainly.

MR. STEIN: Do folks still go out and fish?

MR. BLAKE: Yes, we still go out and fish.

MR. STEIN: Do you notice any effect of the acid on other fish?

MR. BLAKE: Well,as it is stated there in the resolution, any fish caught in the acid grounds shows evidence - you can trace it in the food.

MR. STEIN: Do you notice any lack of fish because of this, out in that area?

MR. BLAKE: Well, there is lack of mackeral and lack of tuna fish.

MR. STEIN: When did you last catch tuna - mackeral out there?

MR. BLAKE: Well, mackeral is spotty.

MR. STEIN: Have you caught any mackeral at all recently?

MR. BLAKE: Not at the Mud Hole. I caught them off the Inlet at the Rockaways.

MR. STEIN: I mean, at the Mud Hole, do you have any recollection of when the last time was that you caught mackeral?

MR. BLAKE: Never at the Mud Hole.

MR. STEIN: Even before the --

MR. BLAKE: Yes, we caught them there before. As a matter of fact, we used to catch mackeral to use them for live bait to catch tuna.

MR. STEIN: Our indications are that this took place, when was it, at the end of 1948, wasn't it? '48. Does that -- would you say you caught mackeral there before that time?

MR. BLAKE: It's about 15 years ago, 12, 15 years ago we caught tuna there.

MR. STEIN: Okay, well, thank you very much.

MR. Shaw: Mr. Chairman, I would like to ask a question please. We were told this afternoon that the Mud Hole was not a very specific location. Could you describe what you mean by the Mud Hole area?

MR. BLAKE: I couldn't tell you just how many degrees it is. It is off the Atlantic Highlands. But it is in that area now that is known as the acid grounds. It's renamed.

MR. MARTIN: Thank you very much, Mr. Blake. Since we started, Mr. Bill Paulsen has come in and wishes to make a statement. Mr. Bill Paulsen of the Advertising Sportsmen's Club of New York. Mr. Paulsen?

MR. PAULSEN: I have only one comment. My statement is written and I will be glad to leave it with you.

MR. MARTIN: If you would like to send us a copy, we are going to hold the record over, we will hold it open for at least 30 days, so whatever your pleasure is on that.

MR. PAULSEN: I'll leave it with you. I am a representative of the Advertising Sportsmen's Club. I think one thing that this meeting should prove without a shadow of a doubt is that the lack of scientific knowledge of what is going on in the sea around us makes sad commentary material for a nation that is on the threshhold of launching satellites to the moon. It is true now even here in the nation's leading city, comparitively little is known about what is going on under water a few scant yards from our shores.

For example, can salt water game fish be propagated like trout? Will the encroachment of civilization in our wet lands jeopardize some salt water fin species? Where do tuna spawn? And why do blue fish appear on our shores in cycles? Do you really want to know? Well, ask the two million, eight hundred thousand fishermen who live in the Middle Atlantic States and you probably will get two million, eight hundred thousand answers and none of them will be the same. Ask our marine biologists and they will tell you that they are trying, that they need to have the kind of equipment to find the answers.

What does this spell out? It implies that all too little is being spent for marine research, a field, however, that has tremendous social, economic and recreational significance, and that is the contention that I am raising about our knowledge of what is going on in the ocean area southeast of New York City. This area is so important to our welfare that every conceivable precaution should be taken to make sure that the fishery there is maintained, that nothing is done to impair its productive capacity.

Just as our courts consider a man innocent until proven guilty beyond all reasonable doubt, let us not take even the slightest risk of jeopardizing the delicate biological balance of this fishery area unless it can be proven frequently and consistently by those who practice or who are seeking to practice dumping in this area, that the wastes or acid wastes are absolutely harmless to marine life.

Why should we take this attitude? Because of its social, economic and recreational aspect? Well, let's estimate then their significance. More than ten million people live in areas contiguous to the New York Bight. The disposal of their personal and industrial wastes is already a mammouth undertaking for the Health Department. This, with the steady increase of steamer traffic into the world's busiest harbor with oil from their exhausts, personal and miscellaneous wastes, adds to its problems, and now we have pleasure boats by the thousands which contribute to the pollution. Some of these pollution factors can be neutralized or eliminated, but many will continue to contribute towards discoloration of the sea around us and to the degree of its impurity.

In 1955, Crossly made a survey of the number of fishermen in the United States and the amount of money that they spend. From this report we can get some idea of the importance of the marine fishery in the area under discussion, an area which is in the migration lanes of many of our most important migratory game fish. According to this survey, 11.3 percent of the people in the Middle Atlantic States over 12 years of age, fish at one time or another, and although this precludes fresh water fishermen, because the net number of salt water fishermen in this area is not readily available, it is still significant that they spend a total of $258,555,780 or the average of $91.98 each during the year. This money was spent for equipment, tackle, bait, food, transportation and for other expenses. A large percentage of these funds must have been spent on salt water equipment. It is especially apparent when the Crossly report points out that in metropolitan areas, a great many fishermen are produced. For example, eight times as many rural residents hunt, as do residents of metropolitan areas, and only twice as many rural residents fish as do their city cousins.

It is entirely logical, therefore, in a city like New York and its environs that this would be true, and what else is there to do that does not entail an expensive trip if one wants to enjoy the out-of-doors. Moreover, the New York Bight is famous for its fishery.

While, to my knowledge, there are no statistics of the number of boats that fish in the bight, I have personally counted during the peak of the blue fish run two years ago, more than 80 boats in one quadrant, which was dotted with fishing parties as far as the eye could see. Multiply by four and you can estimate that there are more than 320 boats in the vicinity, and as you moved on, more boats appeared over the horizen in the same numbers. As a matter of fact, from the appraisal of the fishing activity in the New York Marine District made by Dr. Irwin Alpirin of the Freeport Marine Biological Laboratory in 1955, it is apparent that the economic and the recreational aspect of the sport fishery off our shores are staggering.

At the time, it was estimated that there were more than 6,975 rowboats, outboard skiffs and u-drive-its for hire in 234 stations from Staten Island to Montauk Point. There were 168 open boats, up to 110 feet long, floating 100 fishermen or more and 307 charter boats, mostly in the 40 foot class for off-shore jaunts. The number of private boats were actually beyond a reasonable conjecture.

Here, a count of boat fishing activity for the season was estimated by Dr. Alpirin. Of course, it has increased substantially since 1955, but the total open boats, charter boats and private boats made 193,580 trips. They carried 1,058,474 anglers, for 6,125,041 man hours of fishing.

Naturally, since these figures apply to the New York Marine District, from Staten Island to Montauk, they must be further analyzed before they can be related to the fishing activity in the ocean area southeast of the city. Many boats from Freeport, west to Staten Island, were at the time this estimate was being made, making the run to the area in question in search of blue fish. But as many, or even more were leaving points along the Jersey shore to fish in the same general area, thus these figures, even though they include estimates of fishing and boating activities east of Freeport, and not directly related to the New York Bight, should be factored considerably upward if they are to reflect an accurate picture of the economic and recreational aspects of the fishery supported by the area.

Remember, too, the foregoing estimate did not take into consideration the commercial fishermen's stake in the New York Bight. This is being left to others more qualified to venture their opinion, than myself. Nor have I discussed the extent of injury which could possibly be inflicted by current dumping activities in the area. The marine biologists that I have consulted, themselves can only conjecture and it would be foolish for me to make statements based on my own observations which cannot be scientifically supported. However, it is generally conceded that the area is in the migration lanes of tuna, marlins, sword fish and blue fish, to mention a few important species. While the blue fish apparently still abound in the area from time to time, the other species have been scarce or entirely absent. Moreover, in the absence of research on the winter habits of many other fin fish which migrate off shore during the colder months of the year, before dumping activities commenced, who will ever know what the implications are to fluke, sea bass, porgies, black fish and other bottom feeders.

Let us not confine our interests just to the New York Bight or its social, economic and recreational aspects as they are today. Consider the rest of the coastline, which in some way is related to the health of this one area. Consider, too, the future. What will be the condition of the Bight when the New York population has doubled, when fishing pressure is ten times as great as it is now, when atomic, industrial and sewage wastes to be disposed has become a matter of even greater significance? Can we afford to take the gamble we are taking without further intensive and exhaustive study?

Let's make plans here for a method of disposing of wastes that will guarantee ourselves, our posterity, the right and the opportunity to fish in the unpolluted depths of the sea for the sea's finny rewards. This has been our heritage; let us leave no obstacle in the path of handling that same heritage down to our children.

Thank you very much.

MR. MARTIN: Thank you, Mr. Paulsen. Would you just wait a moment, please.

MR. SHAW: I have one question, Mr. Chairman. Mr. Paulsen, are you suggesting that some agency, Federal, State or otherwise, or a combination perhaps, should attempt to maintain the pristine purity of these waters?

MR. PAULSEN: I am suggesting that very self same thing.

MR. SHAW: Thank you.

MR. MARTIN: Mr. Abelson?

MR. ABELSON: No questions.

MR. STEIN: Just a point of clarification. You mentioned the New York Marine District. What do you mean by that?

MR. PAULSEN: The New York Marine District embraces all the waters in the lower New York area, that would be Long Island Sound, Gardners Bay, Montauk and westward to Staten Island.

MR. DAPPERT: All tidal waters touching upon New York State.

MR. PAULSEN: Yes, sir, that would be the Marine District.

MR. MARTIN: Thank you very much, Mr. Paulsen.

MR. PAULSEN: Thank you ever so much, I appreciate the opportunity.

MR. MARTIN: So far as I know, Mr. Blake and Mr. Paulsen are the only ones who have asked to speak this evening. Does anybody else have new information or anything else they would like to submit?

MR. MORAN: I would like for the benefit of your panel and yourself to try and clean up this nebulous area called the Mud Hole, and again, I am not speaking with any authority, nor can anyone. It is simply what is generally referred to as the Mud Hole.

The designation, Mud Hole, has been used for the past 30 or 40 years. Forty years ago all of the mud that was dredged from the rivers and the Upper Bay and the Lower Bay was brought down and dumped between what is now Scotland and Ambrose Light, that was the general area called the Mud Hole, where they deposited the mud that was dredged from New York Harbor.

Even to this day, the U. S. Engineers use that area and a line between Ambrose Lightship and Scotland Lightship, down about a mile, for the deposit of the mud that the engineers dig themselves, where the commercial dredging people have to dump in an area that is four and one half miles east southeast of Ambrose Lightship, which is just out there, it is just a stone's throw, as we refer to it.

So that the fishermen seeing the mud dumps, not only close to Ambrose and Scotland, but also four and a half miles, refer to the Mud Hole as where they dump the mud, both commercial and the U. S. Engineer's operation.

That is down here - incidentally, from here to here is five miles, from here to here is four miles, and there is the limit of where we dump the mud. Here is where we dump the acid, five and six miles away from it. There is no connection between the acid dumping and the Mud Hole as such and most fishermen know that.

MR. SHAW: Mr. Moran, would you tell ls what is your estimate of the area of the Mud Hole?

MR. MORAN: Oh, roughly, about two miles by four miles.

MR. SHAW: Thank you.

MR. MARTIN: Are there any other comments?

CAPT. MARINACCIO: I would like to give the fishermen's view on this Mud Hole area.

A gorge exists that starts almost from Canada, comes down through the Hudson River, extends out into the ocean and to the continental shelf. The outer edge of this gorge is called the Hudson Canyon and through the war years it was found that fluke and sea bass and many species that we thought migrated southward actually congregated around what we call the Hudson Canyon.

This deep water exists shoreward and the upper end of this gorge we refer to as the Mud Hole. It has a sediment on the bottom so deep that the anchors drag through it. That sediment has collected over centuries and centuries. It has absolutely nothing to do with the particular spot that Mr. Moran picked out where mud is dumped. It is apart and separate. We have no reference to that whatsoever.

MR. STEIN: Captain, would you mind pointing to that on the map if you can?

MR. MORAN: That's the point on the upper end of the Hudson River gorge.

CAPT. MARINACCIO: The upper end of the Hudson River gorge, where they are presently dumping mud is what we call Seventeen Fathom grounds as Capt. Martin pointed out to you, and that is very close to the upper end of the gorge, what we call Mud Hole.

MR. MORAN: Just for mud dumping.

CAPT. MARINACCIO: This is where they dump. They come up in this direction. Now, where we fish, they started actually at Ambrose Lightship. The peculiarity of tuna is that they are caught in roughly a hundred feet or more of water. Now, they follow on the edge of this gorge and they wind up by the top of it, in roughly a hundred feet of water and we fish for them all along there, this way - or we did, until the area became so polluted.

The reason that this area was so intensely fished was that we resorted to a type of fishing that we call "chumming" and that requires a tremendous amount of bait being put into the water. The area is about equidistant from Sheepshead Bay from Freeport, from Shark River and Manasquan, and the boats congregated in this area, here, which became known as the Mud Hole area.

But since this has become so contaminated with acid wastes, that we can't get a concentration of fish to stay in there, as soon as the acid waste drifts in this direction, the tuna disappear. You have to go farther again, you may find them way over here, way out here, continually looking for them.

MR. STEIN: Captain, before you leave, let's see if we understand you. What you would say is the Mud Hole area is located within the top of that kidney shaped figure you have up there. Run your finger around it, that's right.

CAPT. MARINACCIO: We have at times, seen tuna east of Asbury Park, even down this far. It requires a tremendous amount of bait to keep millions of tuna in an area. They will wander, even with the amount of natural bait that is available, you still have to keep them here with artificial bait.

MR. DAPPERT: Captain, will you show us where this Seventeen Fathom area is, is this the same area?

CAPT. MARINACCIO: Seventeen Fathom is a small area that is outlined here by Capt. Martin. You see, the boats as they go out from here, as they get into the deep water, to the edge of it, they are allowed to dump there by the Supervisor of the New York Harbor. There is a certain amount of mud and stone and debris that is dumped there, but it is possible that towboat companies refer to that as the Mud Hole, I don't know, but I know that the fishermen refer to this whole area, which is the upper end of the gorge, which has a sediment that has been deposited here for the last several thousand years, and it is a natural bottom, that is what we refer to as a Mud Hole.

As a matter of fact, as you get down here, this part, the upper section is called the Mud Hole, and the middle of this is called the gorge and the outer end of it by the commercial fishermen is called the Hudson Canyon, and if you try to fish the deep water with the anchor dragging it is impossible because the net gets all full of mud.

MR. DAPPERT: So in your view, this Seventeen Fathom area is only a small portion of the total Mud Hole area.

CAPT. MARINACCIO: Yes, it is only an area a mile or two long and a half a mile wide.

MR. SHAW: Mr. Chairman, I don't know about the rest of this panel, but I have become slightly confused. We have had two definitions now in the last ten minutes of what constitutes the so-called Mud Hole. One was a very confined area of eight square miles, I think, something like that, and now we have an area which, to me, on the map looks more like fifty or sixty square miles. I don't know, I'm only guessing at the scale of that map, but we've had so many references, Mr. Chairman, in the text of this hearing this afternoon to the Mud Hole and to Seventeen Fathoms, I am wondering when we get the final report, if we are not all going to be thoroughly confused.

We've got two points of view here on what constitutes the Mud Hole. Is there somebody here who is an authority on this? Captain, I am not discounting you as an authority, please believe me, neither am I you, Mr. Moran.

MR. MORAN: There is no authority.

MR. SHAW: We hear this word, Mud Hole, Mr. Chairman, all through this text this afternoon. How are we supposed to interpret this?

MR. MARTIN: It seems to me, Mr. Shaw, that we have had this term used by people who obviously have a different understanding to them as to what it is. The only thing I know is that I would assume that Mr. Moran this afternoon talked about the Mud Hole, we have his definition, and I believe the Captain indicated that in his opinion at least, when the fishermen, the actual fishermen fished the area and talked about the Mud Hole, they mean the area he was referring to, and I think we will just sort of have to assume that in going back over the record that when the fishery people are talking about it, they are meaning this area.

Now, it may be that on further study it may be necessary to contact the people who talked about this area this afternoon and attempt to define it a little bit more closely, so that we know for sure just what in their mind what area they meant when they were talking about the Mud Hole.

It is unfortunate, but it is like many, many things. You ask five different people what a steak is and you might get some surprisingly different answers, and I think this is a situation we have, and I don't think there is probably anybody - we could get somebody to set up a definition but whether or not everybody would understand it, I would rather doubt.

So I guess what we have to do is try, in the light of these two definitions that we have, if anybody else has a different understanding of the Mud Hole, why, we would like to have it.

MR. SHAW: We could define it as to whether we can get fish or not, and a good many times there were never any fish there.

MR. MORAN: I would like to refer to Capt. Martin's remarks this afternoon. He opened his remarks with reference to the Mud Hole, but just where it is is very controversial. It is simply something that people refer to, sort of like Shangri-La, and this Captain here is exactly right, it is the upper end of the Hudson River gorge. Long before the white man got here, there was a lot of mud here. Of course, it was trapped by the settlement from the effluent coming out of the Hudson River, but it has always been referred to in the trade as all of that area around the upper end of the Hudson River gorge, which is exactly that two by four square mile area as against that 30 or 40 square mile area that's been outlined in that kidney area, the lower end of that is never referred to, or at least I've never referred to it, the lower half of that kidney has never been referred to as the Mud Hole. It is always the upper end of that.

MR. MARTIN: Can you throw any other light on that? Dr. Wurtz?

DR. WURTZ: I have no particular light on the Mud Hole as such. I have always felt that it was the upper end of the gorge. I have been on the water with Capt. Marinaccio a number of times, and I feel geographically that the upper end of this Mud Hole is like Mr. Moran's Mud Hole for all practical purposes.

Mr. Moran, in the normal course of his affairs, stipulates it somewhat more than Capt. Marinaccio does.

There are a couple of comments I would like to make if I may. One is that all through the meeting that has been held this afternoon and this evening, with reference to this acid waste, I don't hold any brief one way or the other as to how you describe this waste material.

It is, in effect, acid in the barge, but once dumped into the water, the acidity is something that is neutralized within a matter of minutes, Mr. Moran mentioned this, and I think within five or ten minutes, the constitution of the salt water has returned to normalcy for the area where the waste was dropped. So properly, I don't feel that you can actually view this as an acid waste.

Damages that have been done or are being done, if there are such damages, are not in the product of the acidity, except for the immediate discharge from the barge. That is one thing I would like to mention.

Another thing I would like to comment on is this afternoon in Mr. Moran's comments, he talked about the dissolution of this slug of waste within a matter of two or three minutes. I would like to point out that of my own experience, this is incorrect. This slug of waste retains its identity as a mass for considerably longer a period than that. I don't know what the dumping schedule is, whether it is every 18 hours or every 24 hours, or what, but I do know that I personally have seen three distinct slugs floating in the Bight, in the course of one cruise through the Bight, that is a matter of three or four hours.

I think this is a matter that should be borne in mind when we are talking about ultimate dissemination of this waste material.

I would also like to mention, in talking about the type of dispersion as Ambrose light is about two miles and Scotland light about one mile, and this is as you move eastward towards the ocean, so your tidal oscillations are not of the order of magnitude to indicate a lot of flushing. It takes about ten days for the Bight to flush, or for a discreet piece of water to move out of the Bight into the open ocean.

MR. MARTIN: Thank you. Any other comments?

MR. BLAKE: I don't know how often this acid is dumped, but it appears that there are not enough fishermen getting up on this floor. I am speaking as a layman. Now, as far as I understand, the Mud Hole is about 14 miles off the Highlands. There are no fish that I know of. I personally have never caught any fish in this area, only blue fish. That's the only specie I ever caught there, now, since this acid has been dumped.

Previously, when there was no fish on the bottom, we would always get ling and whiting, we would always get fish on the bottom, now at these later dates, we get no fish on the bottom at all. There's nothing on the bottom. The only fish that you get today, the only fish that I ever get from my own personal experience are blue fish on the edge of the acid.

Now, I wish some of you fishermen would get up, don't let the scientific data get you down, some of you fishermen get up and say something. You know something about the acid grounds.

MR. MARTIN: Mr. Blake, I might say that the gentlemen who are here at the hearing this evening, I believe that most of them said their say this afternoon, which we have on the record. We had about 30 people talk this afternoon. I think that's why nobody else is getting up. I am sure it is not because they are disinterested in this problem.

We have Exhibits A through O, written statements which were submitted, many of them by the fisheries people, in addition to the oral remarks they made.

MR. BACKUS: I am Bill Backus of the newspaper, "The Elizabeth Daily Journal." I am curious to know whether any lobstermen have sent in a statement on the condition of the grounds in that area where the iron fungus are supposed to have settled. My understanding is that the lobstering in that area is virtually wiped out.

I was wondering whether a statement had been made by any bona fide lobstermen in that area.

MR. MARTIN: To my knowledge, we have received no statements.

MR. DAPPERT: I believe in Capt. Martin's statement he made some reference to the disappearance of lobster.

MR. MARTIN: But we have received no statements submitted to us.

A VOICE: This afternoon there was a statement presented but not read by the Public Relations Director of the National Lead Company. Possibly I am mistaken, but I understand it was not read due to the shortage of time. Inasmuch as the National Lead Company appears to be the bone of our contention in these hearings, possibly it might be a little clarifying if we did hear this statement presented by the National Lead Company.

We have one statement from the towing company that works for the National Lead Company. What do we have from the Lead Company itself?

MR. MARTIN: Well, this is a choice which Mr. Rose will have to make. We are solely having a meeting here where people who want to talk will have an opportunity to talk. Mr. Rose has submitted his statement. Anyone is at liberty to examine that statement after we have had a chance to get it back to the office. I will give Mr. Rose an opportunity, and if he doesn't wish to talk, I think that's his prerogative.

MR. SMITH: Is he here tonight?

MR. ROSE: My name is Carlton Rose. I am the Director of Public Relations with the National Lead Company.

For you who weren't here this afternoon, I said that we had submitted a statement to Mr. Martin, which consisted chiefly of a statement of the practice that we are following at the present time in dumping, and a complete set of all the reports which have been issued on this subject, starting in with the preliminary Woods Hole report in 1948 and ending up with the last Woods Hole report, which was completed in 1957 which covered an examination of the bottom by skin divers, an examination of the life at the bottom and the top of the area, that is, aquatic life, so that what we really submitted was a brief of our present practice and a complete set of all the reports.

As I mentioned this afternoon, we would be very pleased to give Mr. Martin and the Public Health Service any other technical information that they may require while considering this matter.

MR. MARTIN: As I stated, the material from the National Lead Company was delivered to my office yesterday afternoon by a special messenger, and I, myself, have not had an opportunity to review it and I don't believe anybody on my staff has had an opportunity to look it over yet, not that we are trying to hold anything out. I can't tell you myself what is in the statement.

Mr. Rose has given you a summary of it and I say anyone is welcome to examine it after we have been able to get the material all into one place and get it catalogued into things of that nature.

MR. SMITH: Could the gentleman from the National Lead Company give us any indication of what these reports indicate? Could he give us an idea of what these reports that he has filed with you do indicate? We are talking about damage resulting from this operation. Do these reports that he has formally filed with you indicate that there is no damage? Is that the point that the National Lead is making in the submission of these reports? Possibly the gentleman might like to explore that for us, I don't know, I'm just asking.

MR. MARTIN: I don't know either, because I haven't read the material which was submitted.

MR. SMITH: So far, it is a secret what happened.

MR. MARTIN: It's really not a secret. It's the fact that none of us have been able to look at it as yet. We are not going to keep it a secret.

Mr. Rose is at liberty, if he desires, to say anything. He is also at liberty if he doesn't wish, not to. This is, as I understand it, a rather voluminous report, and I don't think it might be summarized in just a few words.

MR. ROSE: We felt they were quite complicated and required study. All of the reports have been made public to the various technical groups of the agencies who are interested.

MR. MARTIN: These are the reports that were published, Mr. Rose?

MR. ROSE: That's right, some were published, some were distributed. The most recent Woods Hole report was distributed to all the agencies which were interested in this matter in New York, New Jersey and in Washington.

MR. MARTIN: I think I can say to you, Mr. Smith, if you desire to examine these, that apparently these are ones which we have previously seen before, and we would do our best to make copies available for your study if you should so desire.

MR. SMITH: I certainly would appreciate it, sir. I don't wish to belabor the point, but I was under the impression that this panel was sitting here today in an effort to publicly explore the various points of view, both pro and con. There has been no opportunity granted to the panel today to explore any of the positions taken by the National Lead Company.

The people who are in opposition to this proposal, to this program of dumping, have given this panel an opportunity for cross-questioning for a full exploration of other opinions, factual information and anything else. The National Lead Company has not at the present time, as of this moment, has not granted that same right to this exploratory panel that is sitting here, convened for that particular purpose. That is my impression.

MR. MARTIN: I believe you slightly misinterpret the purpose of this panel and maybe the purpose of the meeting. The meeting was not to analyze all of the material that is available on this particular subject. It was only to receive information. That was the purpose of the meeting, to receive information in addition to that information which we have been able to collect up to this time, and our only purpose in having the inquiry panel here was two-fold. One, these gentlemen are somewhat conversive with the problem, although I think they would all admit that they by no means know the ins and outs of it, and I thought that by having them here, they might be able to draw out additional information, and I am sure there was no attempt to cross examine anybody in the way of questioning anybody's statements or anything else. They were just trying to establish additional information.

But in addition to that, some of these men will be asked to serve on this technical advisory committee, to assist our technical people down at the Sanitary Engineering Center in going over this information.

Now, I believe practically everybody that spoke on the other side of the fence this afternoon, and I think certainly Mr. Rose has indicated it, that if when our technical people in Cincinnati and this advisory committee, go into this, that they have additional questions or if they feel that additional information is necessary above and beyond what Mr. Moran has submitted, or what Mr. Rose has submitted, or anybody else has submitted, I think they will feel at liberty to go to those sources in an effort to get whatever additional clarification is available.

I believe nearly everybody that has been here today and in the spirit of cooperation, has fully agreed to cooperate in every way they can, to make all information that they have available. Now, that is the sort of a round-up of the thing, and it was not attempting to not go into one side and go into the other side. It isn't that at all.

There is a tremendous amount available, and if we attempted to go into - for example, if we asked the Woods Hole people to come up here, summarize the three reports that they have prepared and engaged with them in discussion on various facets of it, we just haven't got the time to do that, but we feel that the technical people can go into that as they study this problem, and certainly if they are any good and we think that they will be good and true and honest in their professional evaluation and judgment, where they have questions, where they feel that additional clarification is necessary, I am sure that they will have no hesitation to go to the sources and try to get whatever back-up information is needed and is available.

So, it is with that in mind that I believe the panel confined itself to the few questions that they have asked.

MR. SMITH: I did not, by any stretch of the imagination wish to cast any reflections on the panel. At dinner this evening, we commented on the fairness of the panel on the latitude that was granted in the testimony that was presented here this afternoon. It was revealing and very refreshing to find such an open approach to the subject.

The question, as I say, the bone of contention is not presenting their case for discussion on the floor or for questioning by the panel, was what puzzled me, that was all, sir.

MR. DAPPERT: Mr. Martin, may I make a comment?

MR. MARTIN: Yes sir.

MR. DAPPERT: I will refer briefly to the letter which Dr.Hilleboe, Chairman of the New York Water Pollution Control Board wrote the Surgeon General of the United States Public Health Service. He asked the Surgeon General to do what he could, to see what could be done about getting some kind of a further comprehensive study made of this entire problem.

As a result of that, this panel was asked to appear here tonight to assist the Public Health Service in bringing them all of the information that we would get in reference to this particular problem. The purpose of getting that information is to enable the Sanitary Engineering Service in Cincinnati along with this panel to come to some recommendation as to whether this kind of a study that we have been talking about should be made or should not be made. That's essentially the purpose of this meeting, and in due time, I am quite sure the panel will make some recommendations on that particular point.

Then what happens then, why, if it is in favor of a - recognized that such a study should be made, then comes the problem of how do we get it organized, how do we get it financed, who is going to carry it on and that sort of thing.

MR. SMITH: I agree with you. It wasn't conducted for personal benefits. I don't feel that the National Lead Company has to defend itself publicly against me, but I was under the impression that this was a general open-lay-the-cards-on-the-table hearing and that was why I brought it up, sir.

MR. SHAW: I would like to emphasize to Mr. Smith and the people that were here earlier today, I still see a few of them around, that the work of this panel is not finished this evening by any means. We still reserve the privilege of calling upon Mr. Rose and Mr. Moran or anybody else, and as has been indicated earlier today, there are so many people representing fishing industries who have already volunteered to submit additional information, and the panel, before they get through with this job, will undoubtedly call on a number of people to submit further information.

This work is not finished tonight, by any means.

MR. BINNER: Not to change the subject, my name is John Binner, Sportsmen's Council of New York and New Jersey areas have covered this problem quite extensively in the past few years. I regret that there are not more members of the press here too, to talk on the subject. They are very familiar with it, but I do have a file of many of these press clippings that I would like to present to the committee if that would be in order.

MR. MARTIN: Certainly.

MR. BINNER: I would like to mail it to you.

MR. MARTIN: I said this morning we would hold the record open officially for at least 30 days and I am sure that if any of you have important information even after that time, we will not turn you away, you can bring it up to the office, because we want to get every bit of information we can on this.

Now, to repeat a little bit what I said this afternoon, what we plan to do is to take the information which we have already been able to collect, all of the information which was presented here today, both the transcript and the exhibits and the written statements and give that to our scientists at the Sanitary Engineering Center.

There, we expect them to take it and go through it and evaluate it and where they feel additional information is necessary, they will solicit that if it is available or they will call upon the Technical Advisory Committee for assistance in this evaluation in trying to reach some decision on what further should be done.

We are hoping that within a three to a six-month period we will have a recommendation which we will be able to present to Dr. Hilleboe who initiated this inquiry, and other interested parties, as to what in the Public Health Service's opinion is the next step in solving this particular problem.

I wish I could hold out the strong hope that in from three to six months we would have the answer and be able to put it in everybody's hands, but I am not so foolish as to expect that we will be able to do that.

As you can see, this is a large problem. It is a problem that has many facets, a problem that has a great deal of scientific status back of it and it is a problem about which a great deal is known, certainly more is not known than is known.

I want to thank all of you for your fine cooperation here this afternoon and this evening. I am sure that all of us have but one thing in mind and that's to try to find the best answer to this problem, no matter what it may now seem to us that it is. We are certainly going to do that and I know all of ypu will continue to give us your support and your cooperation in every possible way.

We will try to keep you advised as to the progress being made. If you want to call my office at any time, we will be glad to tell you what the status of the progress our experts are making as well as we can.

We are not going to solve this overnight, I can assure you of that. Again, I want to thank you and tell you that we are here to serve the people in this area that are trying to come up with an answer to this difficult problem and that we solicit your continued understanding and cooperation which we know we'll get.

Thank you very much for being here.

(Whereupon, at 9:15 P.M., this panel closed.)

Appendix A

ATTENDANCE ROSTER

NAME	TITLE	ORGANIZATION REPRESENTED
Ferris Altherr	Chemist	J. Howard Smith, Inc. Port Monmouth, N.J.
Earl J. Anderson	Sr. Sanitary Engineer	Region II, PHS 42 Broadway New York 4, N.Y.
William Bacus	Fish and Game Editor	Elizabeth Daily Journal Elizabeth, N.J.
M. Barofsky	Deputy Commissioner	Water Department 1103 City Hall Annex Philadelphia, Pa.
Wm. G. Bentley	Actg.Dist.Dir. Fish and Game, Marine District	N.Y.S. Conservation Dept. 65 W. Sunrise Highway Freeport, L.I., New York
John A. Binner	President	Sportsmen's Council Marine District of New York State, Inc. P.O. Box 266 Long Island City 1, N.Y.
Joseph G. Blake,Sr.	Board of Governors	Howard Beach Rod and Gun Club Box 204 Howard Beach 17, N.Y.
Wm. R. Bradley	Asst., Div. of Envir. Health	American Cyanimid Co. 30 Rockefeller Plaza New York 20, N.Y.
George T. Cowherd, Jr.	Asst. Chief Engineer	Interstate Sanitation Comm. 10 Columbus Circle New York 19, New York
Russ Crandall	Publisher	Fishing-L.I. Waters-Magazine 20 Whitehouse Ave. Roosevelt, L.I., N.Y.
Edw. P. Decher	Secretary	Jt. Meeting Essex and Union Counties, N. J. Room 311, City Hall Newark, New Jersey

NAME	TITLE	ORGANIZATION REPRESENTED
Thomas R. Glenn, Jr.	Director and Chief Engineer	Interstate Sanitation Comm. 10 Columbus Circle New York 19, N.Y.
Nicholas Griek		L.I. Fishermen's Ass'n. 90 Rollstone Avenue W. Sayville, L.I., N.Y.
Guy E. Griffin	Dep. Comm. Public Works	Dept. Public Works Westchester County White Plains, N.Y.
Wayne D. Heydecker	Secretary-Treasurer	Atlantic States Marine Fisheries Commission 22 W. First Street Mt. Vernon, New York
A. W. Hoadley	J.A. Sanitary Engineer	Region II, PHS 42 Broadway, New York 4, N.Y.
Geo. Holtzman	Captain USCG	U. S. Coast Guard c/o 3rd CG District Custom House New York 4, N.Y.
Wm. Ingram	Aquatic Biologist	Robert A. Taft Sanitary Engineering Center Cincinnati, Ohio
Rudolph Irvin	New York Amphibians	965 Tinton Avenue Bronx, New York
L. M. Klashman	Actg. Asst. Regional Engr.	Region II, PHS 42 Broadway, N.Y. 4, N.Y.
M. H. Klegerman	Consulting Engineer	Linden-Roselle Sewerage Auth. 50 Church St., New York, N.Y.
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L. L. Lewis		Buttonwood Lane Ramson, New Jersey
Don Manns	Executive Secretary	L.I. League of Salt Water Sportsmen 67-11 Parsons Blvd. Flushing 65, New York

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Carmine Marinaccio	Secretary	Freeport Boatsman's Assn. 540 S. Grove Street Freeport, New York
J. Martin, Jr.		Sheepshead Bay Boat Owners Assn. 2670 E. 28th Street Brooklyn 35, New York
Jos. F. Mellor, Jr.	Industrial Hygienist	American Cyanamid Co. P.O. Box 31, Linden, N.J.
Edw. John Moller	Deputy Engineer	Passaic Valley Sewerage Comm. 790 Broad St., Newark, N.J.
Eugene F. Moran,Jr.	Vice President	Moran Towning Corp. 17 Battery Pl, New York 4
Wm. A. O'Leary	Director	Sewage Disposal Dept. of Public Works,NYC Municipal Bldg., NY, N.Y.
Bill Paulsen		Advertising Sportsmen's Club 11 Horseshoe Dr. Northport, New York
Jos. F. Puncocher	Regional Director	Bur. Comm. Fisheries U.S. Dept.of the Interior P.O. Bldg. Gloucester, Mass.
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Carlton H. Rose	Dir. Public Relations	National Lead Company Rm. 2020, 111 Broadway New York 6, New York

NAME	TITLE	ORGANIZATION REPRESENTED
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Ernest R. Segesser	Principal Public Health Engineer	N.J. State Dept.of Health Trenton, N. J.
W. F. Schmaus		38 Fairfield Avenue Cranford, N. J.
Rudolph Schoen, Jr.	President	Postal Rod and Gun Club L.I.C. 1, N.Y.
Robert Shapiro	Chief of Laboratories	N.Y. Dept.of Public Works Wards Island, N.Y. 35, N.Y.
Dudley Smith	President	Atlantic Coast Marine Sportsmen Association 851 Arnold Avenue Pt. Pleasant Beach, N.J.
A.H. Underhill	Director	N.J. Div. of Fish and Game 230 W. State Street Trenton, New Jersey
Leslie E. West	Chief Engineer	Jt. Meeting-Municipalities in Essex and Union Counties 105 Mill Road Irvington, New Jersey
Art Wilson	Correspondence Secretary	Lindeman's Anglers 86-51 Broadway Elmhurst, L.I.
Charles B. Wurtz		Consulting Biologists 610 Commercial Trust Bldg. Philadelphia, Pa.
Mal Xavier	Asst. Gen. Mgr.	National Fisheries Inst.,Inc. 1614 - 20th St., N.W. Washington 9, D. C.
Alexander S. Zele	Chemist	Long Island State Pk. Comm. Babylon, L.I., N.Y.

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